

PLUS CD-ROM with over 1000 custom brushes plus 100 stock images

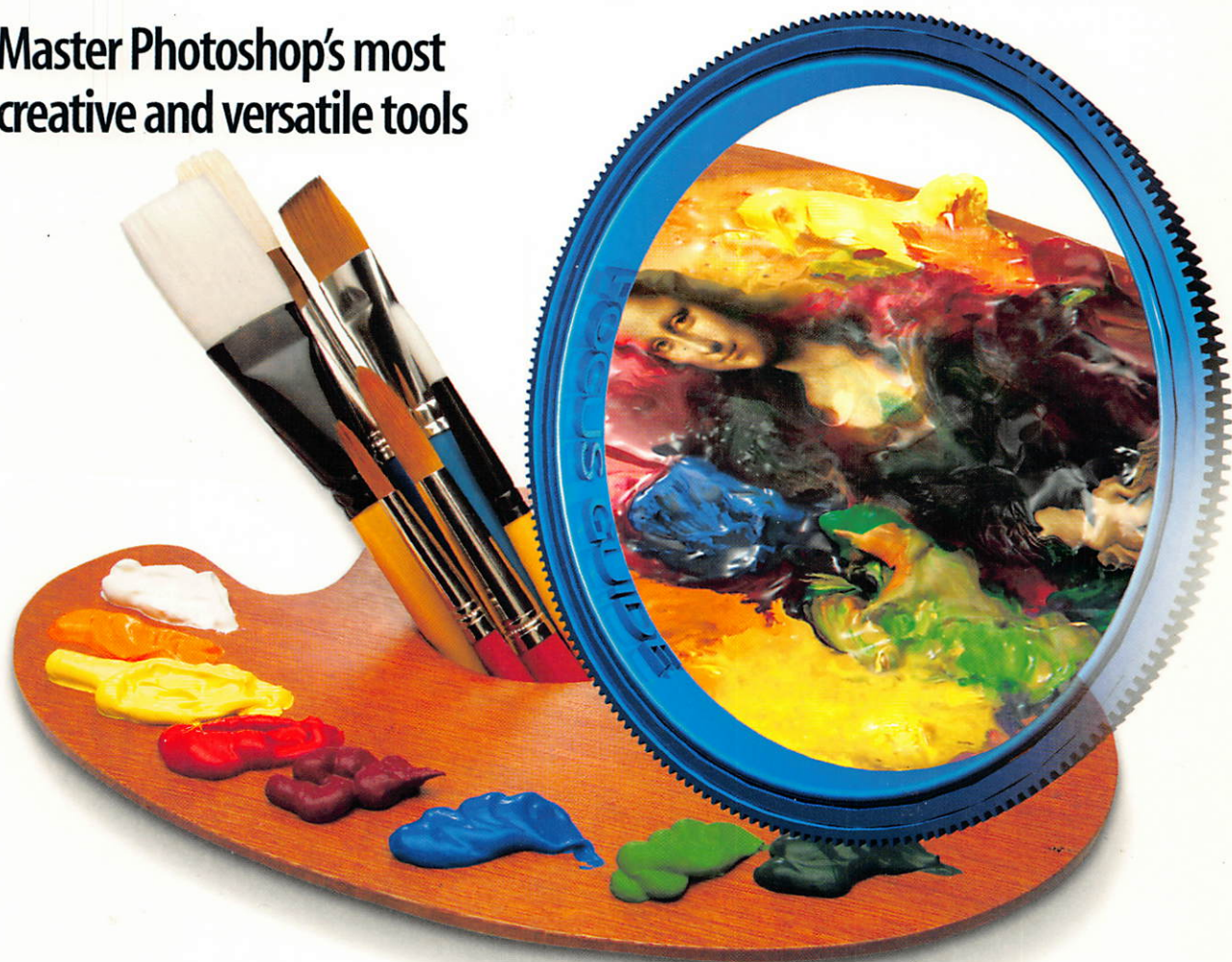
Adobe Photoshop

Brushes and Painting



FocusGuide
From the makers of **Computer Arts**

Master Photoshop's most
creative and versatile tools



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



Brush up on your technique...

If you can master the Brush tools, you're well on your way to Photoshop wizardry. We'll give you the help you need...

The humble brush is the simplest of all the tools that a traditional artist might use. So it might come as a surprise to find that when it comes to digital arts, it's a rather more complex beast. In fact, Photoshop's Brush tool has a huge set of features, giving it the power to create endless effects.

Natural media effects such as spray-paint, wax crayon, charcoal and wet brushes can easily be recreated, but these are just the tip of the Brush tool iceberg. In this issue we'll not only explain how to achieve these traditional effects, we'll also introduce you to the more creative uses for brushes. For example, we'll show you how to control the behaviour of brushes using Opacity, Flow, Feather and other settings. We'll also explain the Blending Modes on offer, which dictate the way your 'paint' interacts with the pixels beneath it. It may sound confusing, but rest assured that our step-by-step guides and annotations will remove any mystery.

One of Photoshop's great strengths is that it lends itself perfectly to customisation, and the Brush tool is no exception. We'll show you how easy it is to create your own custom brushes, then keep them organised with the help of the various palettes and toolbars.

On your bonus CD this month you'll find a bumper collection of over 1000 custom brushes, which add useful effects at a stroke.

There's also hundreds of images, patterns and borders to add sparkle to your work. Not forgetting our video tutorials, which will give you a masterclass in Brush techniques. There's no easier way to learn!





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Finding your way

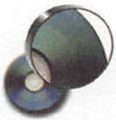
Read this Guide from beginning to end or dip in and out as you please. Either way, our icons will prove indispensable...

Adobe Photoshop – and particularly the versatile Brush tool – is so packed full of features, it's been difficult to cram all the necessary information into this Focus Guide. That's why you'll find the special icons that occupy the margins so very useful.

As you leaf through the pages, you'll find a range of attractive symbols, each of which denotes an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're

dealing with – for a guide to icon categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative and thoroughly tried-and-tested.



On your CD-ROM

Some of the software that we refer to may be included on your bonus CD. Every now and then we remind you of this by flagging up the disc icon and listing what's on it. Handy, eh?



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful hint about using Photoshop's extensive range of tools, palettes and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead we refer you to other useful resources, such as websites and specialist books for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to carry out these tasks with a few deft key-presses, saving you lots of time and effort.

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Chapter 1

INTRODUCING THE BRUSH AND PENCIL TOOLS

In this chapter...

- ☐ *Locating the Brush and Pencil Tools*
- ☐ *Identifying the location of other related tools and windows*
- ☐ *Some simple Brush painting and Pencil drawing*

The Brush and Pencil tools are just as versatile and flexible as any other element of Photoshop. Before we get too involved though, let's start with the basics

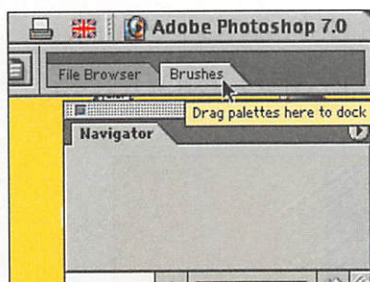
In 1990, Adobe released version 1.0 of a new application called Photoshop. In the early days, the name said it all – a digital workshop for editing scanned photographs. Thirteen years down the line though, people have found all sorts of other uses for Photoshop, and each new version has reflected the evolving needs of its users, bringing us right up to date with version 7 and the brand-spanking new Photoshop CS.

The wide picture

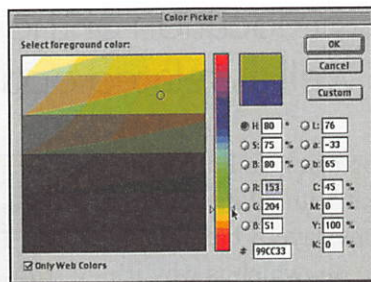
If you have ever worked with an image on your computer, the chances are you have used Photoshop. Photographers, both

amateur and professional, use it to correct flaws in their work; web designers can quickly generate whole web sites from just a folder of images; picture researchers are able to resize photos to match editorial content; artists use it to create malleable collages and paintings.

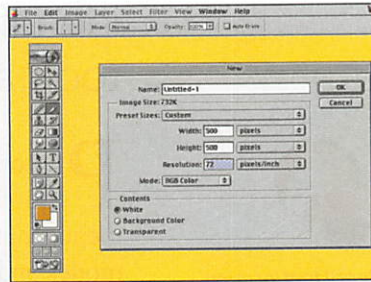
The variety of applications bears testament to the versatility of the tool but Photoshop's flexibility has not simply appeared out of thin air. It is clearly informed by users who have been stretching and exercising the application for so long and in so many ways – looking at the history of the product we can see that Adobe and their audience are locked in a



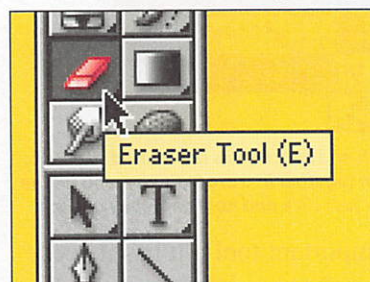
Page 12 Take a whistle-stop tour of interface elements relevant to painting



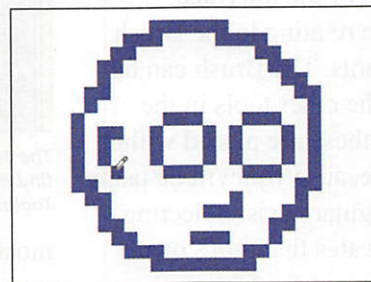
Page 13 Picking colours the easy way – straight from the toolbar!



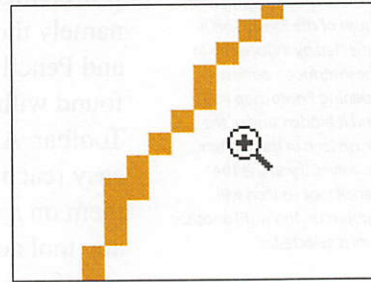
Page 13 Background information – creating a blank canvas



Page 14 The Eraser – any artist's best friend in times of crisis



Page 15 Learn to create simple line drawings with the Pencil Tool



Page 15 Start using other relevant tools such as the Zoom

continuing relationship of supply and demand. The Brush tool is a perfect example of this.

Pre-historic Photoshop

Thirteen years might not seem like a long time, but in the world of technology it is an age. Early versions of Photoshop did actually include Brush and Pencil tools, but there was very little flexibility in how they were used and at the time it was probably assumed that other applications could do the same job better, so why bother? Since then, a lot has changed and in many cases, we now don't need to reach for additional applications such as

Paint Shop Pro and Illustrator. Brushes and digital painting techniques are also now regularly used to work with photographs themselves. In this book you'll see just how many of these developments are new to version 7.

Starter's orders

In this first chapter we'll look at where the tools can be found and also get our hands dirty with some basic painting. The Pencil tool is another tool we'll be exploring throughout this book so we'll look at that too. So without further ado, open your paint box, clean out your brushes and let's get cracking!

The Photoshop interface

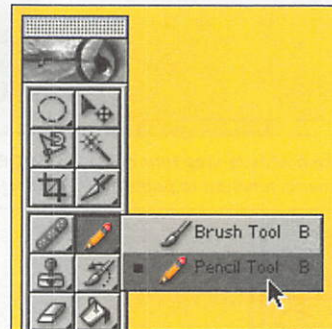
Identify the location of the Brush and Pencil tools, as well as related options and windows



Pencil tool location

The Pencil tends to be used less often as its applications are less wide-ranging than those of the Brush. This is reflected by its location in the interface – on first opening Photoshop you'll find it hidden 'under' the Brush icon in the toolbar. However, if you use the Pencil tool, its icon will remain 'on top' until another tool is selected.

Photoshop can be a little scary to look at with all its windows, menus, options, layers, blending modes and so on, which is why it's nice to be able to single out just a few elements of the interface – namely those relating to the Brush and Pencil tools. The Brush can be found with the other tools in the Toolbar. All these are placed within easy reach because you will be using them on a regular basis. Selecting any tool activates that tool's own specific setting in the Options bar. However, the Brush is obviously the



The Brush and Pencil tools are related so you'll find them together in a drop-down menu on the Toolbar – just click and hold until they appear

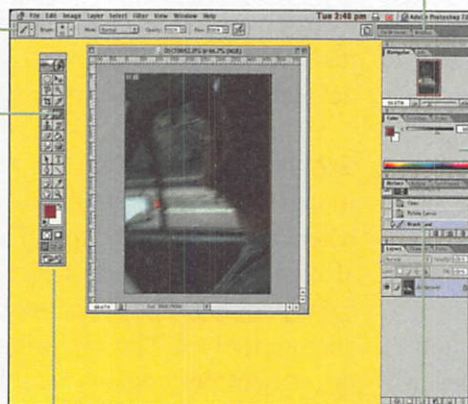
most important tool – it has its very own set of advanced controls in the all-new Brushes palette.

FINDING YOUR WAY AROUND

The Options bar displays various settings for the Brush and Pencil Tools. These partly control how your painting affects the rest of the picture.

The Brush and Pencil tools are found fourth from the top on the right-hand side in the Toolbar. Click and hold to display the drop-down menu.

If you can't already see the Toolbar in your interface, make sure Tools is 'ticked' in the Window menu.



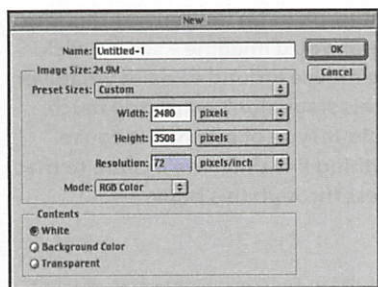
Open the Brushes palette by clicking on the tab in the top right – or drag it out to float independently.

Choose colours to paint with using the Colors and Swatches palette – both of these can be opened in the Window menu if you can't already see them.

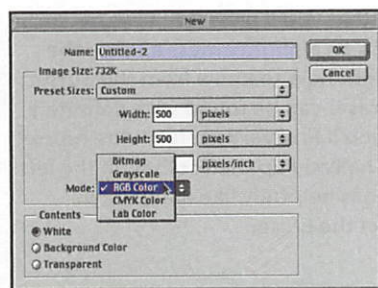
Use the History panel to 'take back' unwanted brush strokes and marks. This is very helpful when we're just starting out with a new tool.

First steps with Brushes

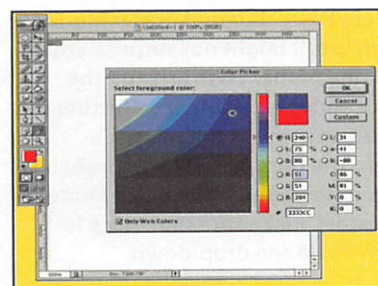
As with any all-dancing, all-singing application, first you have to learn to crawl first



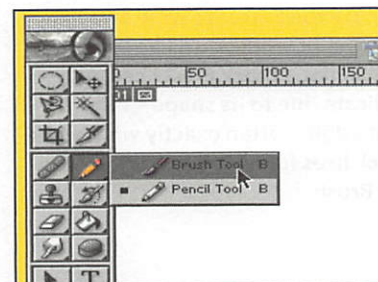
1 Start a new file in Photoshop (File > New). In the pop-up window enter 72 'pixels/inch'. Working with a low-resolution image means the computer will process the file more quickly as there is less detail. As brush work requires the computer to update changes regularly and quickly, this is all-important in our early 'learning' exercises.



2 In the same pop-up change the Width and Height to 500 pixels each. Images aimed at web distribution (eg. via email or on a web page) are best off being no larger than 500 tall by 700 wide. We'll look at how colours are made up later, but for now pick RGB (Red, Green, Blue), which is used for web imagery.



3 Finally, pick White as the Background Colour. Now that we have a blank canvas to start painting on, let's choose some paint. Click on the Foreground Colour shown in the Toolbar and this will bring up the Color Picker. Select the colour by moving the slider through the spectrum and then clicking on a shade. Click OK to confirm your selection.



4 Now select the Brush tool. This is found fourth down from the top, on the right of the Toolbar – the icon is a brush, surprisingly enough! If you can only see a Pencil icon there, never fear. Simply click and hold the mouse down until the drop-down menu appears, then select the Brush tool.



Web-safe colours

If you want to guarantee that your chosen colour is accurately reproduced on all types of systems and web browsers, it has to be a 'web-safe' colour. To ensure that you're picking web-safe colours to paint with, click the Only Web Colors box in the bottom-left of the Color Picker window (see step 3).



Screen resolution

If you are creating a file that you know will only be used or distributed via the web, your screen resolution should be 72 dots per inch. There is no point in creating or saving it at a resolution any higher than this. On the other hand, if you're not 100% certain where the image will end up, start off with a 300dpi image and then save lower resolution versions as necessary. This way, you can always revert to the hi-res original for print-quality exports.

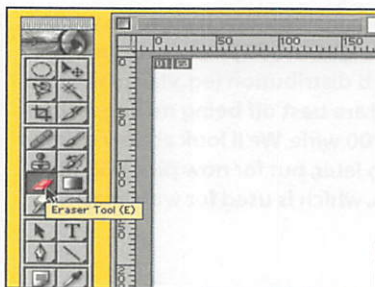
First steps with Brushes continued

»



Setting Eraser 'Color'

The Eraser works by erasing to the background colour, which is usually white – i.e. the same as the canvas. However, if the canvas isn't white or your background colour has changed for some reason, you need to be aware of this. To set your background colour to the colour of the canvas firstly select the Eyedropper Tool in the Toolbar. Then click the Background Color icon in the Toolbar and click the eyedropper on the canvas itself (sampling the colour). Finally, click OK in the Color Picker window.



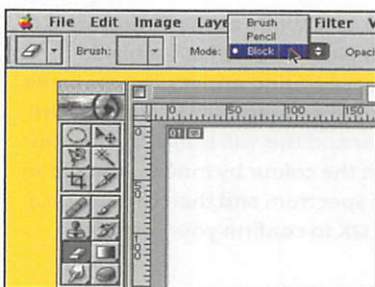
5 Next step, paint on the canvas! This is as simple as you'd imagine – simply click and drag the mouse around to paint whatever you like. At this stage don't worry too much about the colour, type of brush that you're using or anything like that – we'll come to that as we progress through this book.

6 Given that you'll probably start by making an almighty mess all over the canvas, it might help to know from the outset where the Eraser can be found – it's definitely something you'll find very useful in the future! You'll find it halfway up the Toolbar on the left – the icon looks helpfully like an old-style rubber. Select the Eraser.



Changing your painting cursors

The type of cursor that appears when you use the Brush (or any other 'brushing' tool for that matter) can be altered. Click **Edit > Preferences** and then **Display & Cursors**. Look at **Painting Cursors**, where you will also see a preview of each type. Tick **Standard** for each tool to display a cursor depicting the tool's icon – e.g. the Sponge tool appears as a sponge. Tick **Precise** for a very accurate crosshair or **Brush Size** for a cursor that shows the full width and shape of the brush.

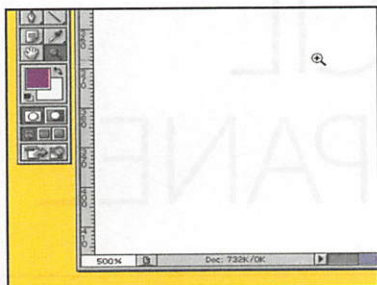


7 There are three different Eraser Modes you can use. It might not surprise you to find out that one of them is Brush and the other is Pencil and their shapes can further be altered in the same way as the relative painting tools. The third, easiest and probably the most commonly used is the Block Mode. In the Options panel, make sure that Block is selected from the Mode drop-down.

8 Finally use the Eraser to wipe away any areas of paint work you'd like to get rid of. You'll notice that a Block Eraser certainly isn't very delicate due to its shape – but that hard, straight edge is often exactly what you'll need for quick fixes following a cack-handed slip with the Brush.

Introduction to Pencil

We've had a taster of the Brush, so now we'll look at its more delicate partner, the Pencil tool

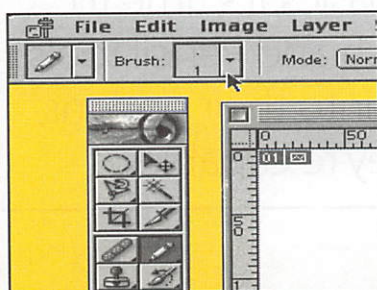


1 Start a new file (File > New) with a resolution of 72dpi and 500 by 500 pixels. As the Pencil is a fine tool it helps to zoom in. Select the Zoom tool – it's the magnifying glass at the bottom-right of the Toolbar. Then click it on the canvas. On a blank canvas it's hard to see any difference but you can check the magnification in the bottom-left of the canvas window. Zoom in to 500%.

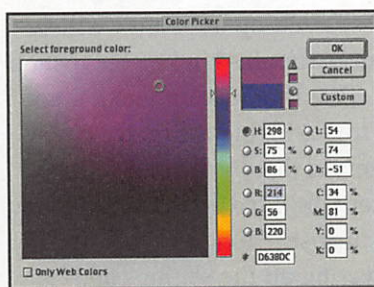


In the old days ...

The Pencil and Brush tools both appeared in version 1 of Photoshop but in those days there were so few tools that they each had their own position in the Toolbar. With so many features and tools added in more recent versions of the application, Adobe recognised the need to save space, so it stacked these two tools together in the Toolbar.



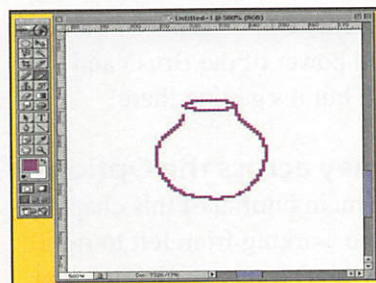
2 Then select the Pencil Tool. If you can't already see it on the Toolbar, you may need to click and hold over the Brush icon, and then pick Pencil from the drop-down menu. Note the very fine Brush size in the Options – this makes it perfect for fine, detailed work where pixel-by-pixel changes are often necessary.



3 Pick a foreground colour by clicking on the Color Preview icon in the Toolbar. Then use the slider in the Color Picker window to select a colour. In that same window, un-tick the Only Web Colors box to display a wider range of shades – they might not appear as shown on all computer monitors but this gives you an idea of the wider range available for print work. Choose a shade and click OK.

Leave the Pencil be

There is nothing actually stopping you setting up the Pencil so that it works in exactly the same way as the Brush, i.e. with the same width, behaviour and so on. However, the more you use the two tools together, the more you'll appreciate how useful it is being able to immediately jump from a very fine tool to a much fatter, painterly one. Given this, don't alter the Pencil Brush shape or size unless you really have to.



4 Finally, draw with the Pencil! Again, this is very intuitive. Zoomed right in like this, you can see how the tool colours pixel according to your mouse movements. Later on we'll really be stretching the creative possibilities, but for now we're just getting started. As before, use the Eraser Tool to rub out any mistakes.

Chapter 2

THE BRUSH AND PENCIL OPTIONS PANEL

In this chapter...

- ☐ Learn how to choose a brush type from Photoshop's pre-set lists
- ☐ Change the size of a pre-set brush shape
- ☐ Use different Modes to paint effects into your images
- ☐ Set your brushes to paint semi-transparently
- ☐ Learn to use a spray paint with the realistic airbrush tool

Now you've mastered the basics, it's time to take full control of your Brush and Pencil tools. This chapter delves deeper into their options, and demonstrates what they're capable of

If you've ever used a Photoshop Tool before, you'll probably be familiar with the Options panel. Whilst it's true that you could blindly potter along without ever using the vast array of controls for each tool, it would be a waste to do so. Those nice people at Adobe put them there, so it would be rude to ignore them wouldn't it?

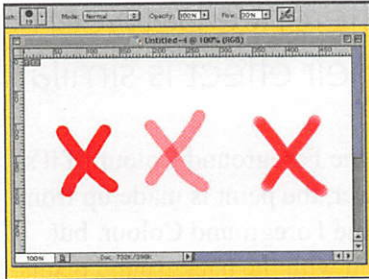
Exercise the brush

It's understood that you won't use every setting in the Options bar all of the time. In fact, you might only end up using one or two every so often. However, you can't make an informed decision unless you've

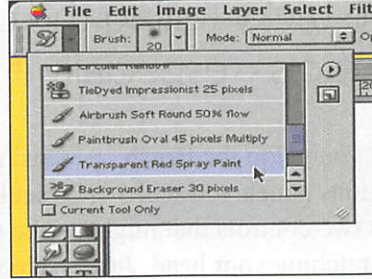
first established how useful (or useless) a setting or control will be to your particular kind of Photoshop work. That might seem like a lot of work to put in, but it's pretty much guaranteed that by the end of this chapter you'll have discovered a few nice surprises along the way. We'll be covering all the settings and controls in the Options bar. Admittedly even this doesn't unleash the full power of the Brush and Pencil, but it's getting there!

Journey across the Options

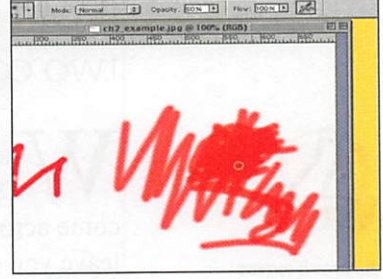
In the main tutorial of this chapter we'll be working from left to right across the Options, explaining how



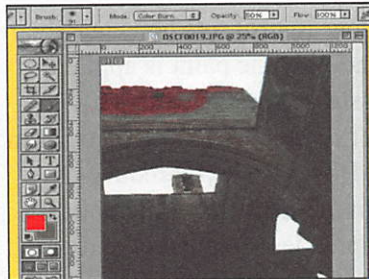
Page 18 Are Opacity and Flow the same? Of course not, as we discover



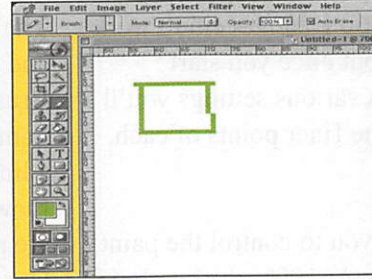
Page 19 Find shortcuts to options such as the Brush Preset picker



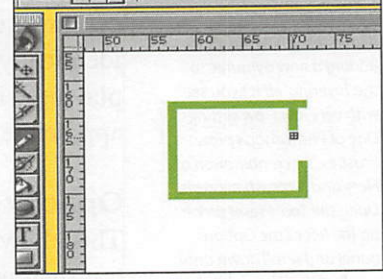
Page 21 The Airbrush setting allows the paint to 'pool' just like a real spray can



Page 22 Learn about the most useful Modes for blending with brushes



Page 23 The Pencil tool can be used for fine drawing – great for outlines



Page 23 Auto Erase is useful when you need to quickly erase using the Pencil

each one can be set and then used to its best advantage. One addition to Photoshop 7 is the Tool Preset Picker – while this appears on the Options whatever tool is selected, it's worth pointing out that there are a few pre-set Brush types included in there as defaults. The Brush preview reminds us what type of brush is currently set, whilst also giving us the option of choosing from a further list of brush pre-sets. If you've ever used Layers before, you can read Mode as Blending Mode – the various settings in this list dictate how your painted pixels affect the pixels underneath, for example lightening, darkening, bleaching or

colouring the image. Opacity and Flow also affect the way the paint is applied – namely its strength. Finally, there's an Airbrush toggle switch, which allows for 'pooling' of paint if the mouse is held down.

No photos

Keep in mind that we're still not working with photos at this stage, even though the application is called Photoshop! We'll come to photographic applications of these painting tools and techniques later but for now, see if you can foresee where the tools we are working with will come in useful when stretched into these other areas.

Opacity and Flow – identical?

It can be tricky telling the difference between two controls – especially if their effect is similar



Airbrush extras

Try experimenting with the Airbrush setting. Airbrushing means your paint 'builds up' if you keep the mouse depressed whilst painting, adding a new dynamic to the 'layering' effect you see with very low Flow settings. One of Photoshop's preset brushes is a combination of Flow and Airbrush controls. Open the Tool Preset picker on the left of the Options panel and scroll down until you find the 'Airbrush soft round 50% flow'.

When you get to the Brush Options panel, you will come across two controls that might leave you scratching your head. Just what is the difference between the Opacity and Flow settings? In certain situations they seem to work identically, but once you start playing with various settings you'll appreciate the finer points of each.

Opacity

This allows you to control the paint's transparency. At 100% the brush will completely cover the pixels beneath

using the Foreground Colour. If it's set lower, the paint is made up from the same Foreground Colour, but blended with the background pixels.

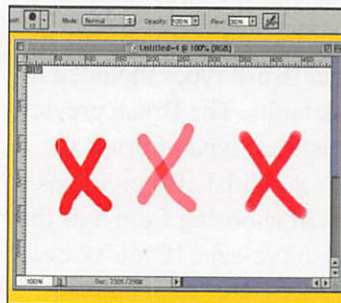
Flow

The Flow control sets how quickly and smoothly the paint is applied. Brush strokes are made up of a number of points running together in a line. However, if you reduce the Flow of a brush stroke, the points are painted less frequently and the Opacity of each point is also reduced by that percentage.

MARK-MAKING EXPERIMENTS

Sometimes it's best to just try it and see

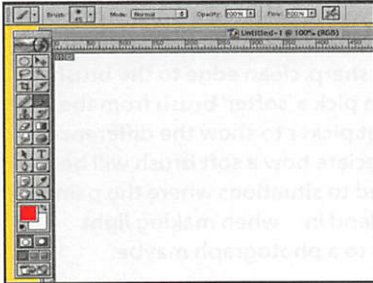
However much you try and get your head round them, the best way to understand Opacity and Flow is through experimentation. Set up a large blank canvas. Pick a bright red and select a 19-pixel circular Brush. Make sure Opacity and Flow are both 100% and paint a cross on the left side of the canvas. Then draw two more crosses, one in the middle with Opacity 30% and Flow 100% and one on the right with the settings reversed. This will let you see how each setting works and how they layer. The middle cross is lighter, but retains the same texture as the left-hand cross – the right-hand cross is less smooth, but is closer to the original colour.



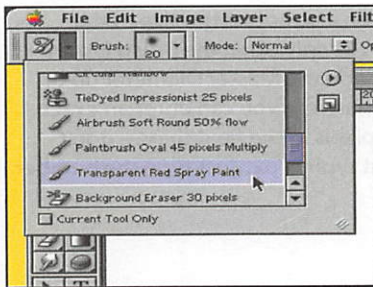
Three experiments (l-r) Opacity 100%, Flow 100%; Opacity 30%, Flow 100%; Opacity 100%, Flow 30%.

The Brush Options panel

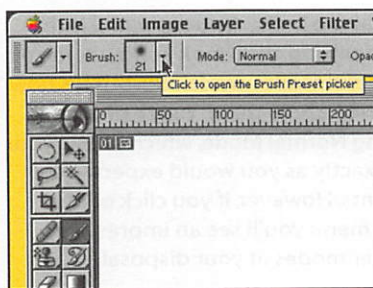
You can only do so much with the Brush before your mouse wanders to that Options panel



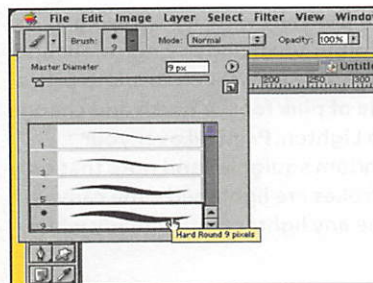
1 Start up a new file with a white background – around 600 by 500 pixels. Pick a bright shade of a rich colour, something like scarlet red. This will help us demonstrate how the brush and its colour settings can affect underlying pixels. Then select the Brush from the Toolbar.



2 Unique to Photoshop version 7 is the Tool Preset picker – this is a list of various tool presets which have been made up for easy access by Adobe, and which appears in the far left of the Options bar. Click the icon and scroll through them all. Note that there are three Brush presets near the bottom of the list, demonstrating the amazing flexibility of the tool.



3 Feel free to try out the Presets but some users would argue that using them is cheating, as it doesn't really let us discover what the Options settings do. Next along is the Brush Preset Picker, which allows us to change the shape and size of the Brush. You will see a preview of the current brush type, which you should click for a drop-down menu.



4 The default set of brushes you see listed is very long but is just one group of brush types. Later on we'll learn how to load up other brush groups and also save your own. Note the different types here – hard-edged, soft edged, patterned, textured and those with tapering ends suggesting pressure-sensitive qualities. Pick the fourth from the top, 'Hard Round 9 Pixels'.



Quick Brush picker

To quickly access the Brush Preset picker whilst using the Brush, simply right-click (PC) or [Control]-click (Mac) on the Canvas. The window will appear floating right next to your cursor. Choose a new Brush or change the Master Diameter. When you click back on the canvas, the window will disappear.



They treat us well

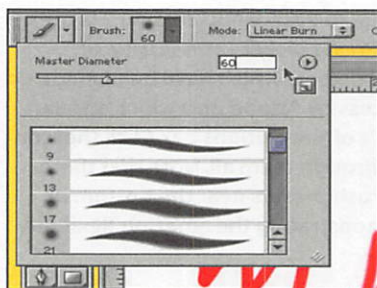
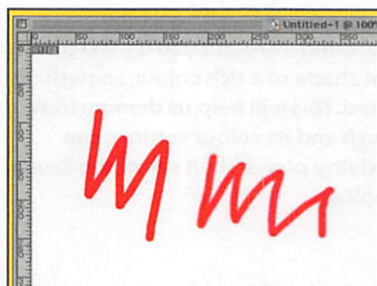
Those people at Adobe are awfully good to us. Someone obviously noticed that over the years people have used various painting tools to do certain everyday jobs – correcting blemishes in photos, creating realistic spray can effects and so on. And their response? Well, the Tool Preset picker came along in version 7, allowing us to quickly reach for those all-important tool settings. As your own working practice develops and you come up with favourites of your own, you can add them to the default list.

The Brush Options panel continued



Modes are permanent

Although the Mode Option for your Brush and Blending Modes for Layers works in the same way, be careful. Unlike layers, which you can toggle on and off, once you've painted a Mode effect on to an object, it's permanent. Here's a safer method – if you want to paint a Screen effect on to your original image, create a new layer above it, change the Blending Mode to Screen and paint on as normal.



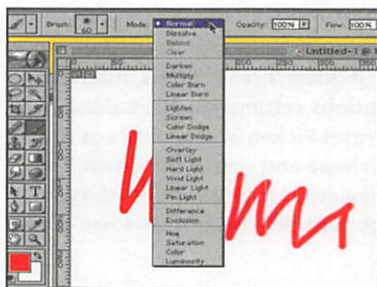
5 Now you've selected a Brush, try it out. Notice how the 'hardness' of the brush produces a sharp, clean edge to the brush stroke. Then pick a 'softer' brush from the Brush Preset picker to show the difference. You'll appreciate how a soft brush will be better suited to situations where the painting needs to 'blend in' – when making light corrections to a photograph maybe.

6 You can also adjust the size of the Brush. Simply open the Brush Preset picker and slide the Master Diameter up or down. Alternatively, you can enter an exact number of pixels in the field there – don't worry about typing 'px', just type the number.

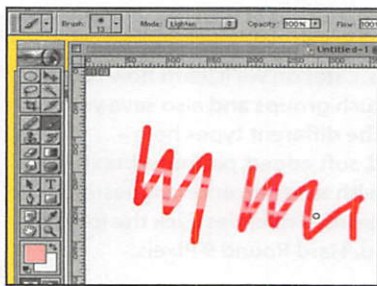


Intuitive field entry

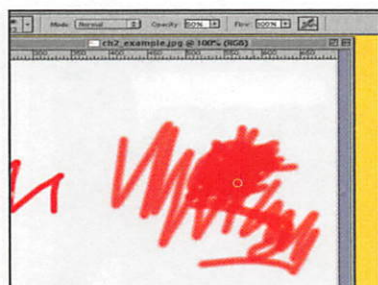
In the Brush Preset picker we've seen how you can type a number in the field and Photoshop will recognise that you're referring to pixels and add that automatically. This kind of thing crops up a lot in Photoshop so most of the time don't worry about typing pixels, cm, mm, % and so on – a good rule of thumb is to just check whatever measurement is in there before you type and then enter a relative field. So if Opacity reads '100%' to start with, don't type in '150%', just '150'.



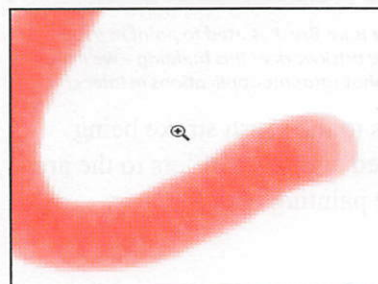
7 Next along in the Options panel is the Mode setting. We'll look at how some of the more useful Modes work later, but for now let's see how to apply them. You're probably used to using Normal Mode, which paints your colour on exactly as you would expect – just like real paints. However, if you click on the drop-down menu you'll see an impressive array of other modes at your disposal.



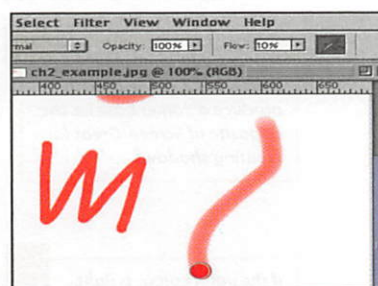
8 Modes basically work by applying a 'top' colour to an underlying colour and affecting it in some way. Given this, let's pick a lighter shade of pink for the Brush and change the Mode to Lighten. Paint all over your previous random squiggles and note that only the brush strokes are lightened – the canvas can't become any lighter as it's already white.



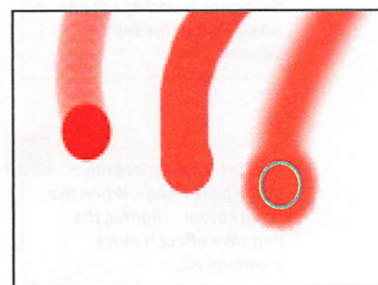
9 Change the Mode back to Normal so we can continue. The Opacity and Flow controls are explained on page 18, but take a little time now to see how they work. Reduce Opacity to 50% and try Painting. You'll see the texture and shape of the stroke is the same as before, but is semi-transparent. It's not just lighter, you can actually see through to the pixels underneath.



10 Return Opacity to 100% and move on to Flow. Reducing this does two things: Firstly, it changes the frequency of points making up the line. Each of these points also becomes more transparent. Set Flow to 10% and pick a 19 pixel round, hard brush. Draw a line and Zoom in to view it in more detail. You should clearly see how the stroke is made up of lots of transparent circles.



11 You can leave the Flow as it is, but now click the Airbrush button, just to the right. This allows the Brush to behave like a real airbrush, applying more paint the longer you hold the mouse down. You'll see it is bracketed together with the Flow control on the Options, as this is where we get the most interesting results. Now paint again, holding the mouse down at the end of the stroke.



12 See how the paint builds up wherever you pause. Now try the same thing with 50% Opacity and 100% Flow. The paint doesn't get any darker but does 'bleed' outwards slightly, as if pooling. You will see this even more clearly if you switch to a soft-edged brush. If you'd rather not make up your own settings, there is an Airbrush Preset in the Tool Preset list.



Journey of an icon
In version 7, we have seen the Airbrush move from the Toolbar, where it had its own icon, to a position on the Brush toolbar. This recognises that, at the end of the day, the Airbrush is basically a behaviour characteristic of the Brush, rather than a tool in its own right.



Using Opacity
Logically, if you're using the same Foreground Colour each time, two 50% brush strokes on top of each other should be the same colour as one 100% brush stroke. However, that's not the case – you will probably need to brush over the same point several times to reach the maximum of your original foreground colour. Keep in mind though that once you've reached the foreground colour, no amount of brushing will make it darker, as that is 100% Opacity.

Modes for Brushes

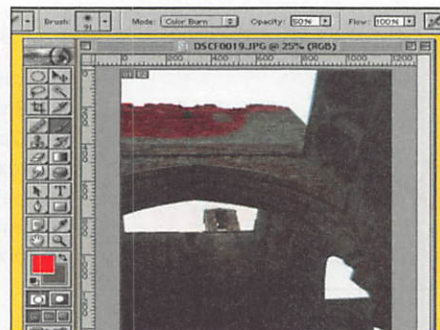
Use the various Brush Modes to alter your images in all sorts of ways



History Panel

Don't always rely on your History Panel to allow you to 'take back' steps if you accidentally paint the wrong kind of Blending Layer or change your mind about the effects. Each new brush stroke counts as a new step, so it's all too easy to get carried away painting and use them all up quickly. If you know you're going to need to take back a lot of steps at a time, you can increase the History States (Edit > Preferences > General).

If you've used the various Blending Modes that can be applied to Layers, you may already appreciate how useful they can be, so it's great to hear they can also be used to set the effect of Brushes. However, as brush work is pretty permanent in comparison to the versatility of layers, it pays to know what these Modes do before using them. Some are more useful than others, so we've tried to pick those out and discuss their effects below. Note that when we talk about Modes and their application, 'blending' refers to the brush stroke being painted and 'base' refers to the area we're painting on to.



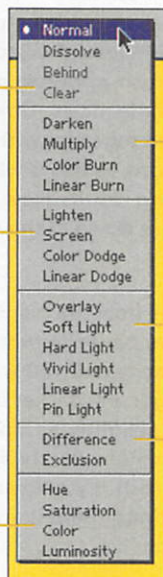
A Color Burn Brush is used to paint in a red tint into the brickwork of this building – we'll look at more photographic applications in later chapters

EXPLORING BRUSH MODES

Erases base pixels where you paint – useful for erasing using current brush settings. Can't be used on Background Layer so you will need to use Duplicate Layer first.

Light blending colour removes the darker parts of the base colour to bleach out or lighten the image. A dark paint lightens the base less.

The blending paint's saturation and hue (colour and intensity) values are applied to the base but the base's 'light and dark' values remain the same, so the contrast remains.



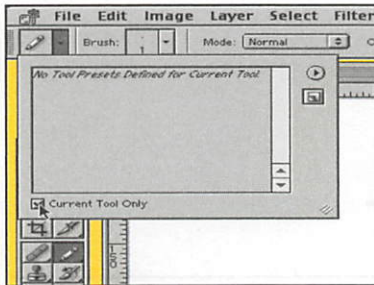
A dark paint removes the lighter parts of the base to produce a darker base i.e. the opposite of Screen. Great for creating shadows.

If the paint colour is light, this lightens the base pixels, if it's dark, it darkens the base pixels – great for subtle lighting.

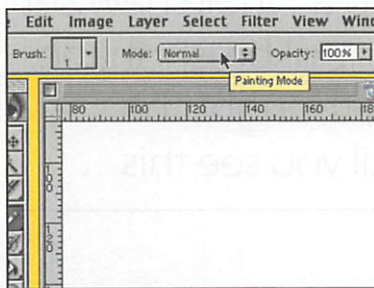
Creates a colour negative of the base image. When the paint colour is lighter, the negative effect is more pronounced.

The Pencil Options panel

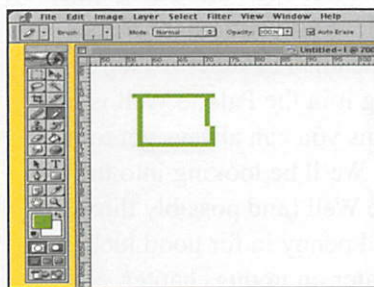
The Pencil options vary slightly from the Brush options, but the differences are worth noting



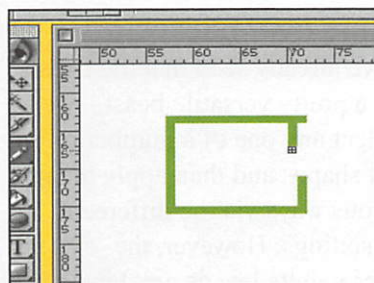
1 Start with a new, blank canvas and select the Pencil tool. In the last tutorial we saw that there are three Tool Presets based on the Brush, but there are none for the Pencil. You can tell this by clicking on the Tool Preset picker and ticking the Current Tool Only box – see? No Pencil presets have been included because the Pencil is usually only used as just that – a plain old pencil for drawing lines.



2 The next option is the Brush Preset picker, which enables you to change the shape of the Pencil in exactly the same way as you did with the Brush. Until the need arises though, it's advisable not to bother – that way you have two different tools to use for different jobs. The Mode and Opacity options also work in exactly the same way.



3 The next option along, Auto Erase, is unique to the Pencil tool, so wake up now! Zoom close into your canvas, around 700%. Pick a bright Foreground Colour to draw with and white as your Background Colour. Select the Pencil again, tick the Auto Erase box and draw a rough square with the Pencil. Even with a steady hand, there are likely to be some stray pixels in your box.



4 Start dragging on one of the pixels you just drew in, and the drawing colour switches to the Background Colour, allowing you to erase your mistakes. To draw using the Foreground colour again, simply click and drag on any non-Foreground-coloured pixel. You'll soon appreciate this is much quicker than reaching for Eraser each time.



Quick Colour Change

Whilst using the Auto Erase function you can, at any time, set the Foreground Colour to be the same as whatever colour is under the cursor. Simply [Alt]-click (PC) or [Option]-click (Mac) the colour and then start dragging. This is useful, because it doesn't matter where you are in your image, it will automatically start you erasing. Later on you'll see how this is helpful when we create some coloured 'pixel art'.



Pencil Modes

We are used to using Blending Modes to make big changes to images, such as re-colouring a sky or lightening a shadowed area in a photograph. However, using the Pencil with various Mode settings we can also use it for the light touches. 'Red-eye' is a common problem in photography, so it helps to be able to use a delicate Saturation Pencil to draw out the colour. Or if you find unsightly tiny highlights, use a Dark Pencil to balance the glare down to the background.

Chapter 3

ADVANCED BRUSH CONTROL

In this chapter...

- ☐ *Get familiar with the layout of the Brushes palette*
- ☐ *Alter existing brush settings for temporary work*
- ☐ *Create real-life brush effects*

The Brushes Palette opens up a whole new set of options, allowing us to control brush shape, behaviour and texture. If you thought the Options panel was fun, wait 'til you see this...

Let's start off with a game of 'i-spy'. I spy with my little eye, something beginning with BP. Still can't see it? There it is, tucked away in the top right-hand corner of your screen next to the Options panel – the Brushes palette.

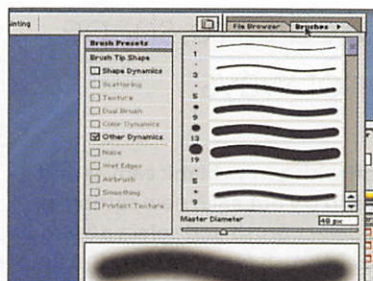
Big palette

You might wonder why the Brushes palette is hidden away like that in the default Photoshop layout. Well to start with, the Brushes palette is huge. If you click on the icon there, you'll see that in its open form, it takes up nearly a quarter of a 1024 by 768 monitor (notice that the new File Browser palette is even bigger!).

If it was left open the whole time, you'd lose all your other palettes underneath! The other reason for leaving it in the Palette Well is that it means you can always get to it easily. We'll be looking into the Palette Well (and possibly throwing the odd penny in for good luck) a little later on in this chapter.

Bending over backwards

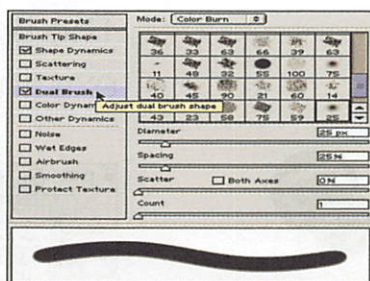
We have already seen that the Brush tool is a pretty versatile beast – we can select any one of a number of pre-set shapes and then apply them in various ways via the different Mode settings. However, the Brushes palette lets us get down to



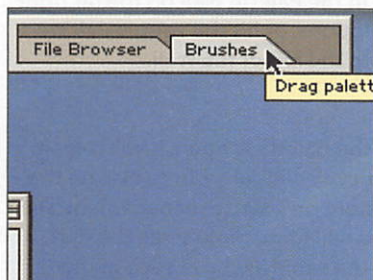
Page 26 Learn how to find the Brushes palette, hidden away in the Palette Well



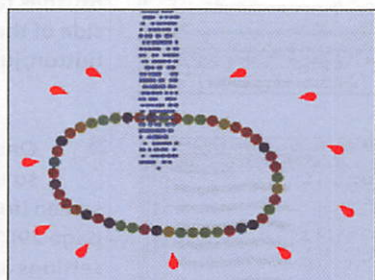
Page 27 Produce a scattered brush effect using the new controls



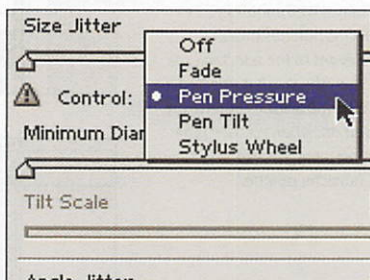
Page 28 Set a Dual Brush which paints alongside and blends into your main one



Page 29 Use the Palette Well to keep the larger palettes tidy



Page 30 Use Brush shapes alone to quickly create artworks



Page 31 Set up your Brush so it responds to graphics tablet behaviours

the real nitty-gritty of controlling the shape, dynamics, behaviour and texture of our brush – and this really does open up a whole new world of artistic possibilities. To quickly give you some idea of what's on offer, select the 'Transparent red spray paint' Brush from the Tool Preset Picker in the Options panel. Then open the Brushes palette. Notice that certain items in the list are ticked, such as Shape Dynamics, Other Dynamics, Noise and Airbrush. Select Shape Dynamics and yet another new set of options for that setting appears. And if you can handle even more excitement, then while the palette is open try clicking

the arrow to the right of the word 'Brushes' in the tab – now that's what I call a menu.

Holding your hand

Despite our best efforts to scare you, don't worry, we'll be taking it slowly. There are various clever things we can be doing here and some of them might not seem that useful until you've been using brushes for a while. To start with you'll probably be happy altering brushes using the palette each time. However, if you start using the same 'spray can' effect every other day, it makes sense to save the brush so you can just load it up at will.

The Brushes palette

The Brushes palette can be used to re-shape existing brushes in a number of ways



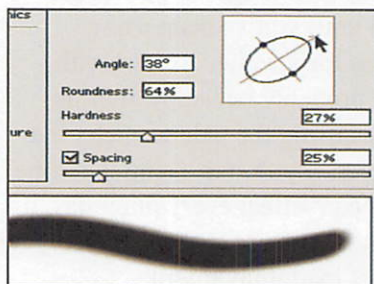
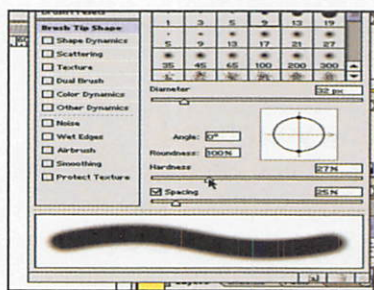
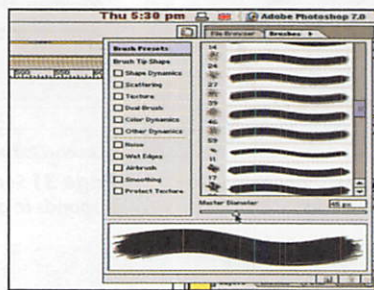
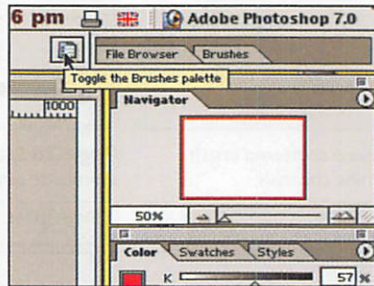
Tool-relevant palettes

The Toggle Palette button found to the left of the Palette Well enables you to access palettes that are relevant to the selected tool. When the Brush is selected it turns the Brushes palette on and off; when you use Type tools it toggles the Character palette.



Calligraphy pen

You can use the Brush Tip Shape controls to create a flat-ended ink pen shape. Give the Brush a Roundness setting of 20% and Angle it at 45 degrees. Set the Hardness to 100% and voila! You could use this brush to create freehand 'ancient' lettering, or draw elaborate borders for your photography.

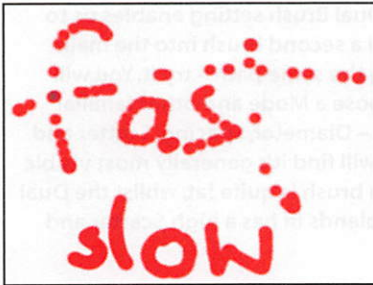


1 Start off with a new, blank canvas and use this to try out each new setting as we progress. Select Brush and select a 'Hard Round 19 pixels' brush type from the Brush Preset Picker. Now we can take two routes to access the Brushes palette – either click on the Brushes tab in the Palette Well on the far right side of the Options, or hit the Toggle Palette button, just to the left of the Well.

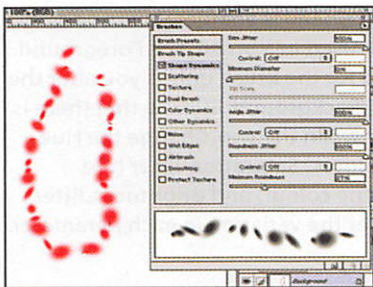
2 Once the palette is open, it will remain so until you click anywhere else on the screen (for more on palette management, see page 29). You will immediately see the first settings are the same as those seen in the Brush Preset picker – you can scroll through all the default brushes and also change the diameter using the slider or text field.

3 Below Brush Presets, click on Brush Tip Shape to discover a new set of controls. There is also another Diameter control here. Note that as you make changes, you see a full-size preview of the brush at the bottom of the window (unless the brush is too large to show there). You can also soften the edges of the brush by reducing the hardness – 100% produces a straight edge.

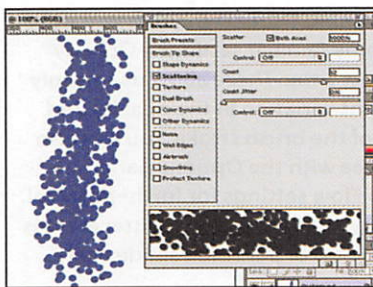
4 You can alter the brush slant by changing the Angle field – enter a number between -180 to 180 degrees. Of course, this won't be visible unless you change the roundness too – enter a number lower than 100% to make it more oval-shaped. Alternatively, change the angle by dragging round the preview window and the roundness by adjusting the two dots.



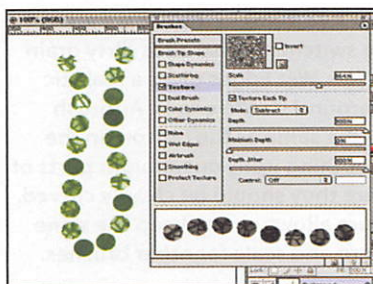
5 Remember how we said before that a brush stroke is made up of a row of points? Well the Spacing control in the Brush Tip Shape set allows us to control this. See how moving the Spacing slider affects the preview. With Spacing unchecked altogether, the points are unevenly spaced – responding to the speed that you draw them rather than the distance they cover.



6 The following six settings all have tick-boxes so you can turn them on or off. First click on Shape Dynamics for controls that set variations in the brush shape. Alter the Size Jitter, Angle Jitter and Roundness Jitter values to set how much these attributes randomly vary in your brush stroke. Change the Minimum Diameter and Minimum Roundness to set the bottom end of the range.



7 The Scattering set of controls affects the placing of the pigments that make up a stroke. The Scatter setting controls how far pigment can veer from the mouse's path – ticking Both Axes makes it veer both perpendicular to and along the path. Change the Count to control the number of points in the pigment. Set Count Jitter to control how much the Count can vary – 100% varies most.



8 To mix the texture from a pattern with a brush stroke, use Texture controls. Choose a texture from the Pattern picker – click the preview thumbnail. If you'd rather use an inverted version, tick Invert. You can alter the scale of the texture and pick a mode to determine how the texture mixes in with the brush stroke. The Depth sets the texture's prominence within the brush stroke.



Brush Tips

Remember that Turning off the six top 'tick box' settings couldn't be easier – simply uncheck the tick box and the changes they made to the brush will be ignored. The great thing about this feature is that if you later decide you want them back, simply tick the box again and you'll find all the settings were preserved exactly as you left them!



Custom patterns

You can use various patterns to Texture your brush stroke. You'll find the default ones in the Pattern Picker window but you can load in more – open the Pattern Picker and click the small arrow, then choose a set from the bottom of the menu. Alternatively, make your own. Draw your pattern on the canvas, then select it using the Rectangular Marquee Tool and do Edit > Define Pattern. Next time you open the Pattern picker it will be listed among the options.



The Brushes palette continued



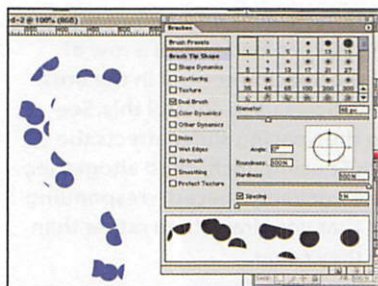
Quick click

Even though the top group of setting in the Brushes palette offers huge versatility, Noise, Wet Edges, Airbrush, Smoothing and Protect Texture are great for 'quick-click' alterations when you don't have time to mess around with slide bars or enter numbers into fields. If your drawing is a little jagged, try Smooth. Airbrush also doubles up the button found in the Options panel. Noise adds a speckly grain to your brush.

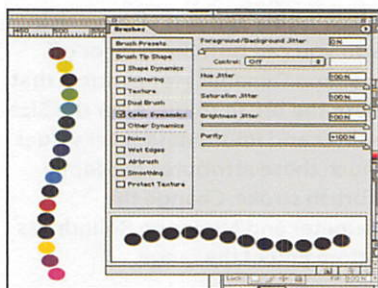


Computer Arts

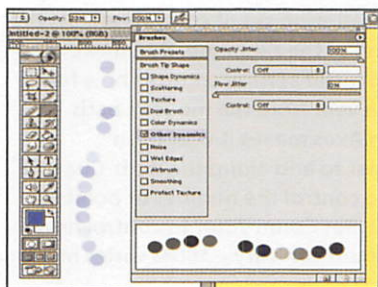
You can find out loads more about all aspects of Photoshop and other graphics packages in our monthly sister magazine, Computer Arts. You'll find a superb range of tutorials, projects and advice written by some of the greatest minds in the business. Check out their web site at www.computerarts.co.uk.



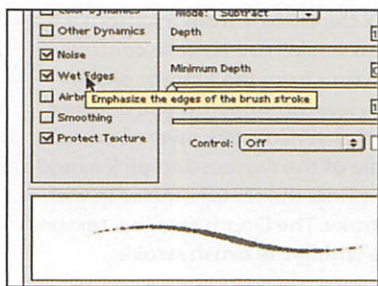
9 The Dual Brush setting enables us to blend a second brush into the main brush using the same path – try it. You will need to choose a Mode and other familiar parameters – Diameter, Spacing, Scatter and Count. You will find it's generally most visible if your main brush is quite fat, whilst the Dual Brush that blends in has a high Scatter and low Count.



10 Color Dynamics enables you to vary the colour used in a brush. The Foreground Color is used for the Brush unless you alter the Foreground/Background Jitter so that there is variation between the two. Change the Hue Jitter (the colour), Saturation Jitter (the intensity of the colour) and Brightness Jitter values to alter the variation in each parameter.



11 On opening Other Dynamics you will see some familiar settings – Opacity Jitter and Flow Jitter. These allow us to apply point-by-point variation in the opacity and flow values of the brush stroke. You can also combine these with the Options panel Opacity and Flow settings for further control. A low Opacity and high Opacity Jitter creates a stroke made up of pale blue shades here.



12 The last five items in the list are just toggle switches. Noise adds dirty grain to brush strokes. Wet Edges gives a realistic paint effect around stroke edges. Airbrush does exactly the same as the button on the Options panel. Smoothing irons out straight parts of a stroke where they should be cleanly curved. Protect Texture allows you to keep the same texture pattern and scale for other brushes.

Organising palettes

Things can get crowded when you use all the options – so it helps to know about palettes

Unless you can afford the luxury of a huge monitor, you'll probably find the Photoshop interface a bit cramped at the best of times. Design applications are now so full of palettes, windows and panels that it can take some time to organise your working area – hence the current trend for wide-screen monitors. However, Photoshop does its best to make life easy for you.

To start with you're probably already aware that you can turn palettes and panels on and off using the Window menu. Each one is listed

there and grouped together so you know where to find all related controls. For example, Character is bunched in with Paragraph and if you select either one of them from the list, you'll see they appear side-by-side. This menu is also quite useful for finding palettes which you know are somewhere on the screen but you've temporarily lost.

Once you've got everything laid out exactly as you like, you can click on Window > Workspace > Save Workspace so it's ready to use next time you open the application.



Lost palettes

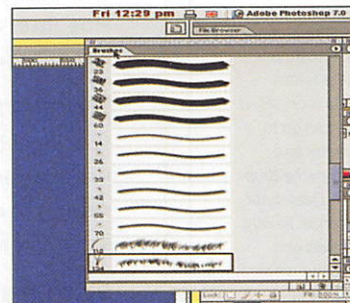
If you suspect you may have lost a palette under a jumble of windows, have no fear.

Simply click Window > Workspace > Reset Palette Locations and Photoshop will set all your palettes to their original default locations. If you still can't find your palette, check that it's ticked in the Windows menu.

THE PALETTE WELL

A nice safe place to keep your Brushes palette

It's just not practical to leave the Brushes palette floating on the screen all the time – it's far too big. Select the Brush tool and you will see the Brushes palette 'docked' in the Palette Well in the top right-hand corner. To open it, click the tab; on opening the palette a small arrow appears to the right of the word Brushes – click it and un-tick Expanded View from the menu to simplify the available options. Alternatively choose any one of the Thumbnail or List options. To make the palette float permanently, grab the Brushes tab and drag the whole window on to the screen – drag it back into the Palette Well to dock it again.



The Brushes palette is huge but there's nothing to stop you 'floating' it or simplifying the layout if it helps

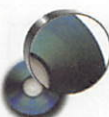
Brushes as art

You can make art with brushes, but can a brush stroke be a work of art in itself?



Downloadable brushes

<http://www.timo2000.de> is designer Timo Mann's website. You can download his fantastical Photoshop brushes and then use them yourself – choose from Star Wars themes, bubbles, bullet holes and light flares. The download and installation process is very easy and the files are tiny, so it's a hassle-free process. You can also find out about other people's efforts via the Photoshop Brush Ring.

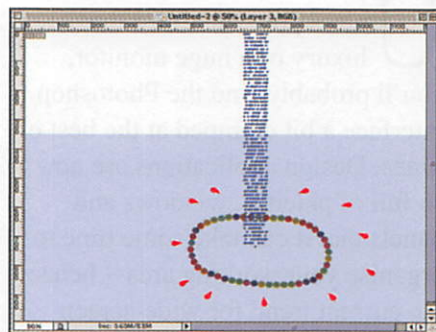


Try the CD brushes

You will find a brushes file on your CD – *jezset.abr*. Before opening the application, place *jezset.abr* in the Adobe Photoshop > Presets > Brushes folder. Once Photoshop is on, select the Brush tool, then go to the Brushes palette and Load Brushes from the drop-down menu. Find *jezset.abr* in the list and hit OK. Finally, select Brush Presets and scroll to the bottom, where you will find the three brushes featured in the box on the right.

As we've seen in the Brushes palette, there are many ways we can manipulate brushes so they behave differently – but had you considered that the brush stroke itself could be a piece of art?

Once you start thinking creatively, you can have a lot of fun. Just think of any repeating pattern or texture that you see around you – scratches in a drinking glass, blinds hanging from a window, train tracks, footsteps in the snow. You might not be able to create realistic representations of these but, if



Make use of creative brush shapes to produce simple artworks – here you see custom-made Data, Water Splash and Necklace brushes in use

nothing else, you should be inspired to think more creatively when you come back to the Brushes palette.

SOME BRUSH IDEAS

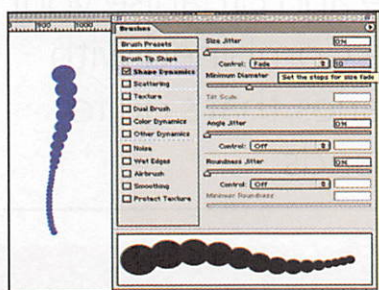
- ☐ **COLOURFUL NECKLACES** can be drawn using a Hard Round Brush with plenty of Spacing to represent beads. Then put the Color Dynamics' Hue Jitter up to 100% and add a thin Dual Brush as the string holding the beads together.
- ☐ **DATA STREAM** effects can be achieved quite effortlessly. First set spacing wide enough so that your hard brush dots almost touch. Then use Scattering with a high Scatter, high Count and low Count Jitter setting to create rows of dots. Paint it whilst holding down the [Shift] key to create a straight row of 'data'.
- ☐ **WATER SPLASH** droplets can also be created. Using Shape Dynamics we can easily set a Minimum Diameter – the Control is set to Fade so it does just that as the stroke is drawn. Curve the stroke as you draw it to make 'splashing' droplets.

Using hardware with brushes

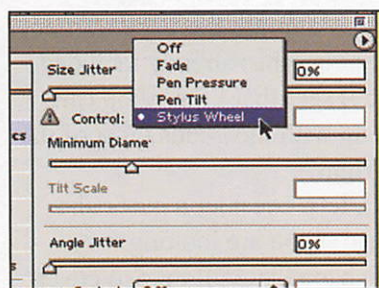
If you have a graphics tablet device, now is the time to plug it in



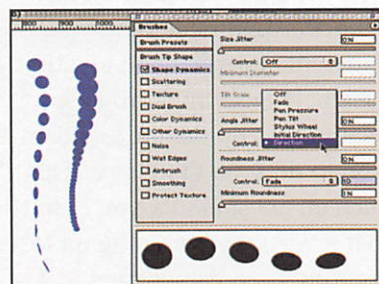
1 In using the Brush palette you may have noticed the Control menus. These appear wherever a minimum-to-maximum variation can be made in the brush stroke, but usually need input from an external piece of hardware such as a graphics tablet. Start by plugging your graphics tablet into the USB or mouse connection of your computer.



2 Select the Brush and open the Brushes palette. Select the Shape Dynamics controls and open the drop-down menu next to the Size Jitter – Control setting. The first control is Fade, which you can use without using a graphics tablet. In this case, it decreases the size of the brush along the stroke, using the number of steps you specify.



3 Pen Pressure allows you to make use of pressure-sensitive graphics pens and varies the brush size accordingly. Some pen set-ups also allow control according to the angle of the pen on the tablet – Pen Tilt. A Stylus Wheel control allows you to make use of the wheels found on some airbrush-type graphics pens.



4 If you look at the Control menu by Angle Jitter, you will also notice two more control options. Initial Direction sets the angle of the brush based on the direction when you started the stroke and Direction sets the angle based on the direction in which the mouse is moving. Look out for the Control menus throughout the Brushes palette.



Warning icon

Note that if you choose a Control setting and see a warning triangle appear, it means the hardware currently plugged in doesn't support this type of control.

For example, my Wacom pen-and-tablet is sensitive to pressure, so I can use Pen Pressure, but not Pen Tilt or Stylus Wheel.



Graphics tablets

You can expect to pay between £40 and £150 for a graphics tablet, which often includes a cordless mouse with the traditional pen-and-tablet set. The obvious leaders in the market are www.wacom.com and www.nisis.com and for good reason – a simple, intuitive design allowing you to quickly pick up the basics. To buy their products online, visit www.amazon.co.uk, www.pcworld.co.uk, or for the ultra-cheap option, try www.ebay.co.uk.

Chapter 4

ORGANISING & MANAGING YOUR BRUSHES

In this chapter...

- ☐ *Save your custom brush as a Tool Preset*
- ☐ *Create libraries of similar brush types*
- ☐ *Use Photoshop's own sets of custom-made brushes*
- ☐ *Manage your brushes effectively with the Preset Manager*

It's worth taking time to save and organise your Brush controls for future use. Combined with Photoshop's own brush libraries, that's quite an arsenal of paint in your hands

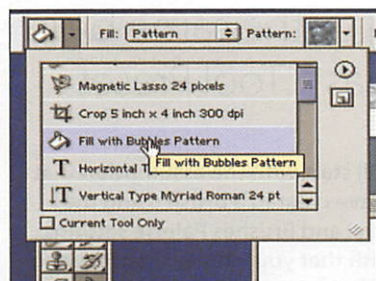
So far we have looked at how Photoshop's Brush and Pencil tools can be controlled and set up in a variety of ways. In the rest of this book we will be looking at some of the real-life applications of the tools in art, illustration and photography. Before doing so, this chapter discusses how brush settings can be saved, loaded, managed and organised within Photoshop.

Why save?

The customisation of brushes to do exactly what you want often provides a solution to an unusual problem that may crop up so rarely that you consider it a waste of time

to be worrying about saving the settings. After all, there are so many different brushes already included (as we'll see) that Photoshop can come up with the goods most of the time, right?

Well, let's consider a particular scenario – you are looking for a brush shape that will help to cover up a blemish in a car's paintwork. After much experimentation, you come up with a perfect combination of Brush palette settings. You use these settings to do the job and then move on to do something else. This was such an unusual job, you didn't feel that it was worth holding on to those settings you had created.



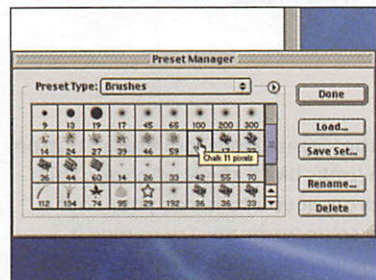
Page 34 Learn how Tool Presets can make everyday jobs easier in your work



Page 35 Unleash the power of the extensive Brush Presets menu



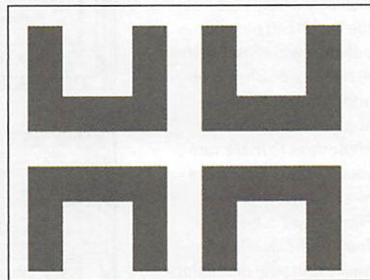
Page 36 Use Photoshop's selection of brush libraries for a wide range of effects



Page 37 The Preset Manager makes organising brush libraries much easier



Page 38 There are plenty of people on the web happy to share their brushes



Page 39 Define your own shapes to use as brush heads in Photoshop

However, two months later, someone sees the touch-up job you did on the car and asks you to do the same on a photo of their car. You spend ages once again trying to recreate the same settings you used before. Eventually you come up with something but it doesn't quite look right – if you had saved the brush in the first place, you would have been guaranteed the same results and in a fraction of the time.

Different ways to save

We already know about Tool Presets so you'll be glad to know that any Brush setting can be saved, allowing you to access it quickly from the

Options bar. In addition to this, you can also make up whole groups of custom brushes which you can then save as libraries. Let's say you're making an artwork with a 'wet' feel to it, like real paint, and want to create a set of brushes which will create this effect. You can create a group of different 'wet' brush types and save them as a 'wet brush' library, so that each time you want to create something using this style, you can simply load up the brushes and get on with the job. Photoshop makes it easy to save and re-use your brush settings any time you like, so it pays to get acquainted with the process from the outset.

Saving as a Tool Preset

If you find yourself returning to the same brush effect time after time, save it as a Tool Preset



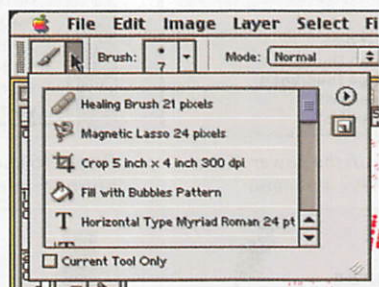
Where do I save?

It will obviously help if your saved preset library can be available at any time from the Tool Preset picker or palette menu – just like the Art History, Brushes, Crop and Marquee and Text libraries that come with Photoshop. To make sure your library is listed there too, choose **Adobe Photoshop 7 > Presets > Tools** as the location. Be aware that your new library will not be listed in the menu until you restart Photoshop.

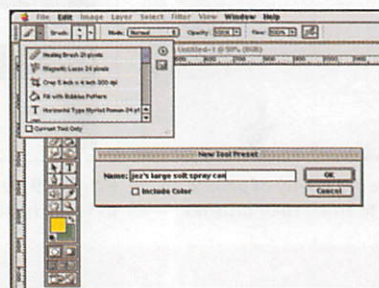


Tool Presets palette

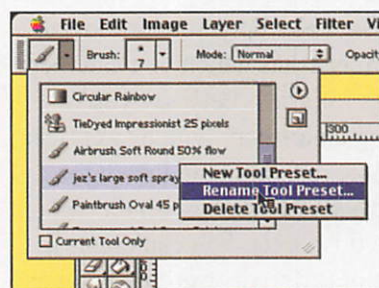
The Tool Presets palette (usually grouped with the Actions and History palettes) doubles up the Tool Presets picker window – you can create a new preset, delete one or access the menu. The current presets shown in the picker window also appear here. This may or may not be useful to you depending on what kind of layout you like, but as the palette is stacked with others anyway, it's not taking up any extra space so there's no need to close the palette.



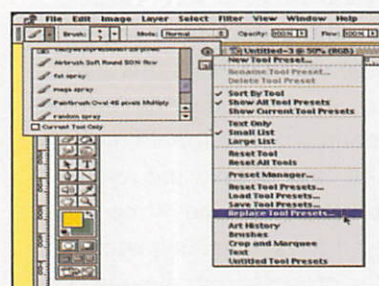
- 1 We will start with the assumption that you have created a brush using the Options panel and Brushes Palette settings. This is a brush that you would like to save so that it appears in the Tool Presets list on the left of the Options bar. Click on the Tool Preset picker to open the menu.



- 2 Click the 'Create New Tool Preset' button, which looks like a sheet of paper. This will in turn prompt you to name your Tool Preset, so do so accordingly. Try to give it a descriptive name, especially if other people will be using the preset – also keep in mind that this will pop up as a 'tool tip' if you hover over the thumbnail image when selecting.



- 3 With the brush saved as a preset, it will appear in the Tool Preset picker, listed alphabetically with other presets for the same tool. For example my brush preset appears alongside other brush presets. To Rename or Delete a preset from this list, right-click it (PC) or [Ctrl]-click (Mac) and select from the menu.

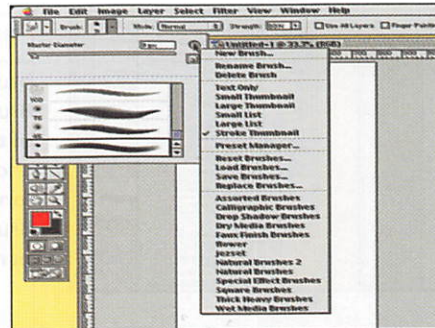


- 4 If you have made a number of tool presets that are useful for one particular type of job (for example, photo editing), they can be saved as a library. In the Tool Presets picker menu, choose **Save Tool Presets** and then choose a location and name (see warning sidebar). When you need it later, to load up just your new library for use select **Replace Tool Presets** from the menu.

Tool Presets menu

Hidden away in the Tool Presets picker or Tool Presets palette is an impressive menu

As far as menus go, the Tool Preset menu is quite a beast. You could easily miss it altogether but having found this set of options, you'll find yourself regularly using it to keep on top of all those tool presets. Open the Tool Preset picker and click on the tiny arrowhead – the menu will appear. Alternatively click the same icon on the Tool Presets palette. Generally speaking, the top half of the menu determines how you see your Tool Presets listed, while the bottom half decides what you see – which ones are loaded up,



The Brush Presets menu (shown above) differs only slightly in function from the Tool Preset picker, with similar options

saved or viewable. Knowing what all these settings do certainly makes this menu a lot less scary.



Brush Presets menu

The menu found in the Tool Preset picker is different from the menu found in the Brush Preset picker, but only slightly. The options are basically the same, but rather than dealing with Tool Presets or Tool Preset libraries you are controlling the brushes – how they are viewed in the lists and which libraries are displayed.

THE TOOL PRESETS MENU

These three settings allow you to alter the way the Tool Presets are listed in the palette or picker window.

These options re-set the settings for either the current tool in use from the Tool Preset Library (Reset Tool) or all of them (Reset All Tools).

Opens the Preset Manager window, which allows us to control which libraries and brushes are viewed in the Tool Preset picker and the Tool Preset palette.



Allows three different ways of sorting the list of Tool Presets – useful if you're looking for a Tool Preset for the tool you have selected.

Reset – sets the Tool Presets to default; Load – loads up an additional library of TPs; Save – saves the current TPs listed as a tool preset library; Replace – replaces a current library of TPs with a new one.

The list of Tool Preset libraries – select one and load it up into the picker or palette. This has the same effect as clicking Load Tool Presets (see above).

Brush libraries

Once you've customised a brush, you can save it as a Brush library to be used in the future



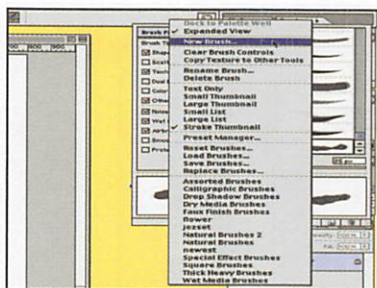
Brush preset vs Tool preset

The main difference between saving a brush in a brush library and saving it as a Tool Preset is that a Tool Preset is saved for a specific tool and can also make the colour a specific saved factor. In contrast, when you save settings to a brush library, these can be used with any tool (or at least any tool that works like a brush such as Dodge, Burn or Sponge).

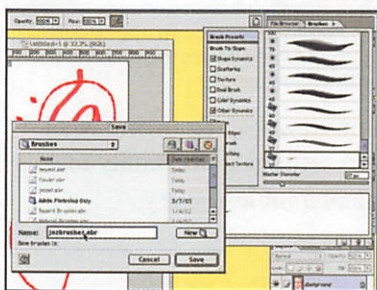


Photoshop preset brushes

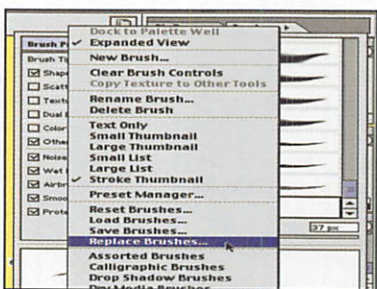
Take the time to check out the brush libraries offered with the application – some are a little far-fetched but others will be more useful in everyday work. You will find them listed in the Brushes Palette menu and you'll probably find it easiest to Replace Brushes rather than Load Brushes, as this will allow you to see what's included in each list.



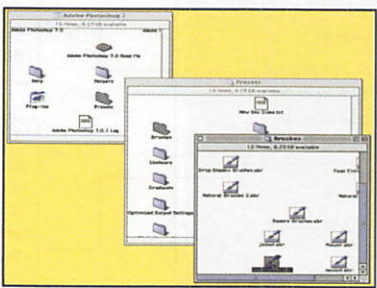
1 As in the tutorial on page 34, we'll make the assumption that you have set up a brush with settings you'd like to save. In the Brushes palette, select Brush Presets at the top of the list. Then open the Palette menu and choose New Brush. This adds your new brush (once you've named it) to the bottom of the Brush Presets list – as seen in the Brush Presets part of the palette or Brush Preset picker.



2 This is saved temporarily, but if you were to re-set the Brush presets to the defaults, your settings would be lost. There is a solution – save your customised settings to a brush library. Once you have a few new brush settings of your own at the bottom of the Brush Presets list (repeat step 1 above!), open the Brushes menu and select Save Brushes.



3 As with the Tool presets, we have various ways of loading up and arranging brush libraries. From the menu we can choose Load Brushes, but this will list the new library as well as the current one, which can make the Brush Presets list pretty busy! Alternatively, select Replace Brushes and one library will be replaced with the other, so you're only presented with those you really want to use.

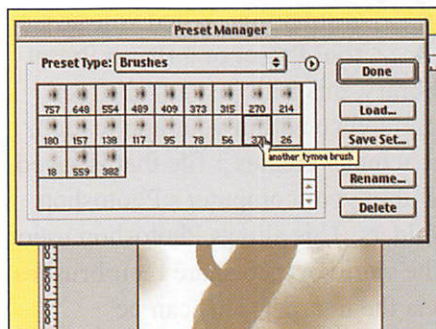


4 Finally, take note of all the brush libraries Adobe has already packed in with the application. As your own libraries are added to the Adobe Photoshop > Presets > Brushes folder of the application, you'll see them in the list in the menu. If you can't find them in the list, try restarting Photoshop – you've made a change to the interface, so Photoshop needs to re-set itself.

Brush Preset Manager

If you're having problems organising your brushes, the Brush Preset Manager may help

You will often find that Photoshop offers several routes, which all arrive at the same destination. The Brush Preset Manager, found in the Brushes Palette menu, is an example of this. You could do without it altogether, as you can achieve the same results by using the Brushes Palette menu. However, the Manager gives the opportunity to step back and view our brushes differently – it is also quicker than using the palette menu because, as a pop-up window, it does not need re-opening each time in the



The Brush Preset Manager helps to give a new, organised outlook over the brushes you're about to use – very helpful for larger jobs

same way the menu does. If you're about embark on a big brush job, it might help to gather yourself here.



Can't access Preset Manager?

You may find that on opening the Brushes Palette menu, most of the menu is 'greyed out' – you can still see the Preset Manager option but can't click on it. This is probably because you're not on the Brush Presets pane of the Brushes palette – make sure you have Brush Presets selected from the top of the palette's list of settings and try the menu again.

BRUSH MANAGEMENT BASICS

- ☐ **RESET YOUR** brushes to the Photoshop default by clicking on the arrowhead and picking Reset Brushes from the menu.
- ☐ **REPLACE YOUR** current set of brushes (as seen in the window) with a new set by clicking Replace Brushes from the arrowhead menu or picking a brush library from those listed.
- ☐ **LOAD ADDITIONAL** brush libraries to the usable list by clicking Load. The new brushes will appear below the original ones in the list.
- ☐ **DELETE OR RENAME** brushes from the usable list by selecting them and then hitting Delete or Rename. Hold down [Shift] whilst selecting to select more than one at a time.
- ☐ **SAVE YOUR** new set as a new library. Select a brush from the list so you can click Save Set, and then do so.



Changing other presets

You can just as easily use the Preset Manager to organise current presets for all kinds of other things, including the Tool Presets. Click the Preset Type menu and you'll see them all listed. Remember, working with the Preset Manager doesn't actually change the files in your Photoshop folder, so it's impossible to accidentally delete libraries and saved presets – it just affects what you see listed as available for use in a particular Photoshop session.

Other people's brushes

There are plenty of places on the web where you can find new brush libraries to use



Brushes on the CD

The samples found in the links above are just a small sample of what you can find on the web with a bit of digging. To give you a taste of what's available, we've included more than 1000 useful pre-set brushes on your accompanying CD.

Consider this. When you save a Tool Preset or a Brush Preset library, this isn't just an 'abstract' preference within your application, it actually creates a file that is saved within your computer's Photoshop folders. This allows Photoshop users the world over to share their brushes via the internet. This can be achieved by emailing, or simply by including a selection of brush files for download. As they say though, great minds think alike, so there are also a number of 'brush rings' which work like any other kind of web

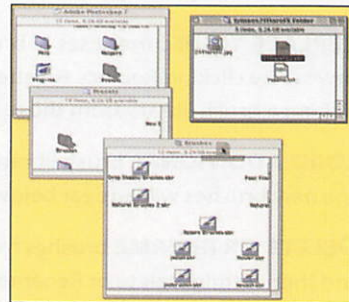
ring, drawing designers and artists together as a brush-sharing community. Try this URL to start with: www.ringsurf.com/netring?ring=psbrushes;id=51;action=prev5.

This will lead you on to a number of sites offering downloadable brushes, like <http://brushes.free.fr>, <http://nocturna.net/brushes/> and www.gypsykiss.net/brushes.htm – in most cases these are free or 'shareware', requiring you to at least credit, thank or link to the brush's creator. Of course there's nothing to stop you getting involved yourself!

STORING DOWNLOADED BRUSHES

Where do we put those brushes once they're downloaded?

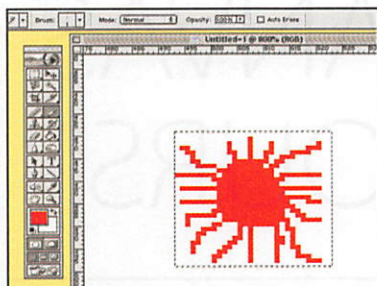
Using downloaded brushes couldn't be easier. Once you hit a site's 'download' button, you'll be asked where you'd like to save the file. If the file ends with .abr (Adobe Brush), choose the folder 'Adobe Photoshop 7' – probably found with all your other Program Files (PC) or Applications (Mac), then open the Presets folder, followed by the Brushes folder and save it there. If the download is a folder containing other files (such as README text files describing the brush) then you'll first need to save the folder to an easy-to-find location – the desktop is always a good bet. Then open the folder and move the .abr file to the Brushes folder, in the location we just described.



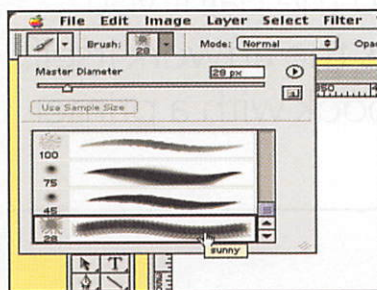
Brush Libraries should be placed in the Photoshop > Presets > Brushes folder of the application

Creating brushes from images

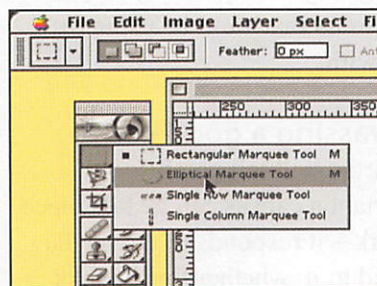
Why opt for a boring, round brush tip when you can draw your own?



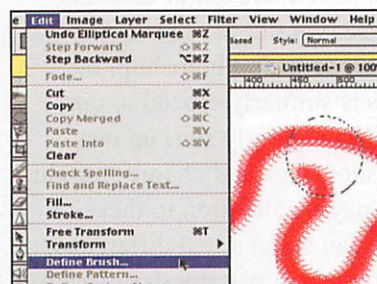
1 Start with a blank canvas 1000 pixels by 1000. Zoom in to 800% using the Zoom Tool. Then select the Rectangular Marquee Tool, hold [Shift] down and drag on the canvas to select a square shape. Then pick the Pencil tool (under the Brush tool on the toolbar) and draw a shape inside the selected area.



2 To make this drawing into a brush, select **Edit > Define Brush** – it couldn't be simpler. You will also need to give your brush a distinctive name. If you now look in the Brush Preset picker on the Options bar or the Brush palette's Brush Presets pane, you will find the new brush at the bottom of the list. Click **Deselect** to remove the Marquee, then select **Brush**.



3 Select your new brush type and try it out – you might decide it doesn't react exactly as you'd like so don't forget all the Brushes Palette settings and the Options panel. Once you've made a nice mess on your canvas, go back to the Toolbar and pick the Elliptical Marquee Tool, which can be found under the Rectangular one we just used.



4 Using this tool, select a newly painted area of the canvas. Then select **Edit > Define Brush** again and you will have another new brush! Again, try adjusting the brush controls and start painting. Make as many new brushes as you like based on the previous ones and go for broke...



Best results

When drawing shapes for your new brushes, try to keep them high-contrast. One strong colour on white will give the best results. If you create a brush from an area containing more than one colour, such as a photograph, the Define Brush operation will translate the selected area into shades of the foreground colour – try it and see.



Define Pattern

If you've ever used **Define Pattern** before (also found in the **Edit** menu), you're already halfway to knowing your way around custom brush heads. Later on in this issue we'll be looking at how Patterns can also be used with Brushes to shade or colour your artwork.

Chapter 5

BEFORE YOU PAINT – CANVAS AND COLOURS

In this chapter...

- ☐ Create different canvas types to paint on
- ☐ Learn about how colours are made up
- ☐ Mix colours using the Color Palette
- ☐ Organise a custom-made colour palette

The surface you work on and the paint you use is almost as important as the artwork itself. We kick off part two of the book with a primer on canvasses and colours

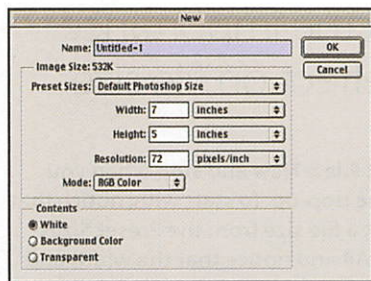
It's all very well learning the ins and outs of every Brush option, setting and control, but it's no use gaining all this wonderful new knowledge if you're not actually going to put it into practice. To that end, the next few chapters of this issue deal with the practical application of all kinds of brush-type tools, including the Brush itself.

In the final chapter we'll be pooling all the things we have learned throughout the earlier chapters to work through a case study. However, before we get down to the painting itself, there are some other factors we need to consider – in particular the type of surface

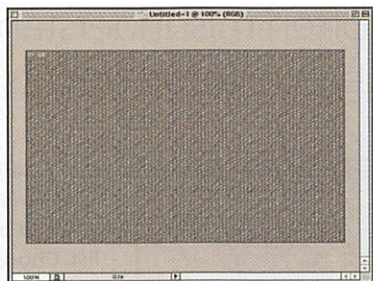
we're going to be painting on and the colours that we'll be using to paint with.

Canvassing a good cause

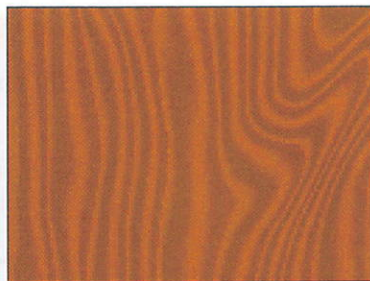
Any artist will tell you how important a canvas can be to a piece of work – it responds to the media applied to it, whether this be inks, paints, pencil, crayon or charcoal. As these types of brush are also available to us in Photoshop, the canvas is similarly crucial to our work. We regularly start up new Photoshop files and charge straight in but paying attention to these details can make a real difference. For example, a patterned canvas may



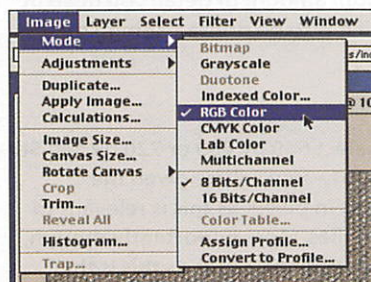
Page 42 Learn how to set the image resolution when starting a new file



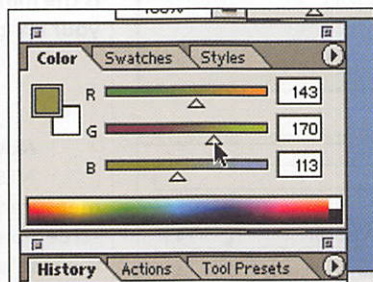
Page 43 Create a realistic textured canvas to start painting on



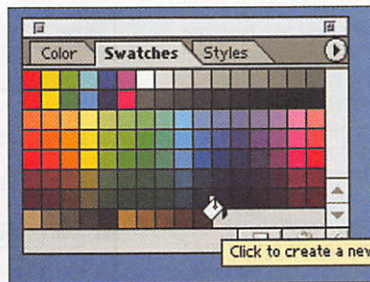
Page 44 Create a customised wood effect, complete with lines and knots



Page 45 Find out the difference between RGB, CMYK and Grayscale images



Page 46 Find out how the Color palette works so you can mix your colours...



Page 47 ...and then save them in the Swatches palette

contain hundreds of tiny grey blobs to make up a cartridge paper effect. This will not only look more realistic if the final piece has unpainted, blank areas of canvas showing but, if you are painting using a Blending Mode, the paint will also respond to the pattern underneath it in much the same way as would happen in real life.

Colour me good

We've skirted around the issue so far, but understanding colours is also very important to any aspect of Photoshop work. We'll be exploring some of the fundamentals, such as the difference between RGB and

CMYK and also explaining the numerical way of defining a colour, such as R30 G50 B10. There are also various ways to select and change colours. So far we've seen the Color Picker window but without exploring it in real detail.

We'll also look at relevant tools such as the Eyedropper and the Colour and Swatch palettes, which offer different ways of selecting and saving colours respectively.

So for the moment, we'll be taking a break from the brushes themselves. However, by the end of this chapter we'll have a canvas to paint on, and a fine selection of paints to get started with.

Image resolution

People often misunderstand the importance of image resolution and its effect on file size



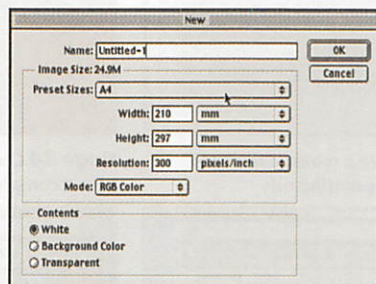
Resample Image

Consider a photo which is high resolution (1600 by 1200) but is shown at 72dpi when you open the Image Size window. Not only will this give a very low quality print but it will also be huge – width is 56.44 cm and height is 42.33 cm. Un-tick Resample Image and change Resolution to 300 – image quality is maintained and the file now fits an A4 page. Basically, the same pixels have been squeezed in over a smaller area.

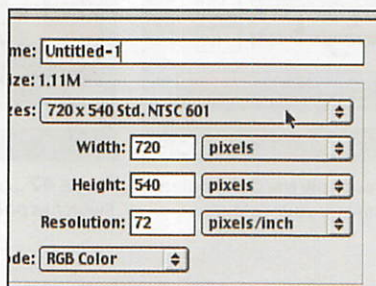


Which dpi?

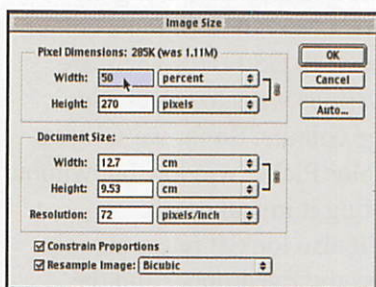
As a rule we use 72dpi for web or computer-viewed work and 300 dpi for printed work – most printers output at least this resolution. If in doubt (you may want to eventually output as both), start off with a 300dpi file – if you make a 72dpi file and then change it to 300dpi you will lose quality. To illustrate this, find a web page with a photo on it (which will be 72dpi) and print it out.



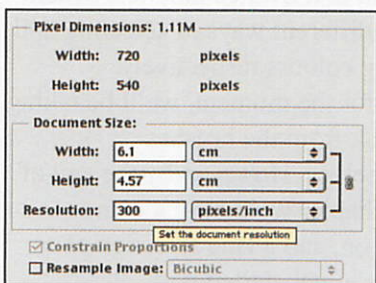
1 Select File > New and stop when you see the pop-up. To start with, notice that you can pick a file size from the Preset Sizes list. Choose A4 and notice that the width and height are shown in mm. The Resolution is automatically set to 300 dots per inch, which is the minimum amount of detail you need in your image if it is to be printed at high quality.



2 Now select 640 by 480 or 720 by 540 Std NTSC 601 – you will be given the measurements in pixels, as this is relevant to screen-based files. More importantly though, the resolution is set to 72dpi, as this is the resolution of computer monitors and other types of screens, such as televisions.



3 Once you've decided on the dimensions and resolution of your file, hit OK. Paint something randomly on the canvas – now let's try changing the file dimensions and resolution to see how it affects the image. Select Image > Image Size. Note you can change the width and height according to pixels and percentage (Pixel Dimensions) or mm and cm (Document Size).



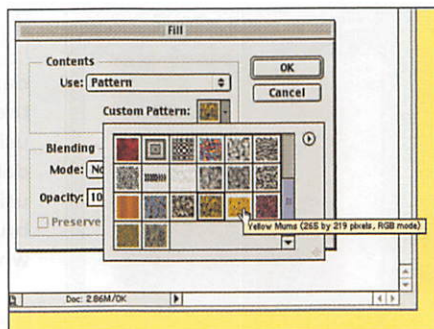
4 Constrain Proportions should be ticked if you want the image to remain in the same scale – you will see Width update if you change Height and vice-versa. If you are changing the size (e.g. in cm) of an image but want it to contain the same number of pixels so that the resolution doesn't change, un-tick Resample Image first.

Creating textured canvasses

Q: When is a blank canvas not a blank canvas?

A: When it's textured, of course!

A blank canvas is very rarely blank. Look closely at a piece of A4 paper and you will notice dust particles, hair, the fibres running through the paper, maybe some kind of grain or even a watermark. So if you're trying to make your artwork look truly realistic, why not incorporate these surface features into the piece? This could be especially helpful if you're trying to cheat the viewer into thinking they're looking at a scanned image or photo – or trying to forge an Old Master! Don't forget that you can



We can simulate some of these effects using Photoshop filters and Patterns – sometimes you will even need to use a combination of the two

use the Preset Manager to load up new Photoshop pattern sets – or your own custom-made and saved ones.



Permanent changes

If you use a Filter or somehow paint a new texture into an image, make sure you're not making a permanent change to your image where you don't want to! The safest bet is to create a new layer and apply the texture there. This means you can turn the layer on and off as necessary and dispose of it without damaging the rest of your image – of course, you then paint the main image into a new layer too.

TEXTURE IDEAS

- ☐ **LAYER** your textures by making stacks of layers, each containing a different pattern and set to different Blending Modes. As long as the original tile for each different pattern is a different size, this should create a 'random' non-repeating surface.
- ☐ **PHOTOGRAPHS** of surfaces can be used as canvasses too. With the photo as the background layer, create a new layer above to paint on to, using Blending Modes to blend it into the subject.
- ☐ **FILTERS** can be used to generate textures. In the Filter menu, the first stop is obviously the Texture Set, but also try the Noise, Pixellate, Artistic, Render and Sketch filters, mixing them together.
- ☐ **COLOURS** in a background texture shouldn't be so vibrant that they will draw the viewer's attention away from the main subject – the painting. Equally, too much detail or contrast can also be distracting.



Pattern Maker

In the Filter menu you will find the Pattern Maker. In the pop-up, first use the Marquee tool to select a tile area for the pattern. Then hit Generate Again to produce a random pattern based on your tile – hit Generate Again to see another version. You can now either hit OK to use that pattern in your image, set preview to Show Original to start again, or save your tile for later use – the disk icon in the bottom left of Tile History.

Wood effect tutorial

Here's a simple way to create a wood-effect surface using the all-new Liquify tool



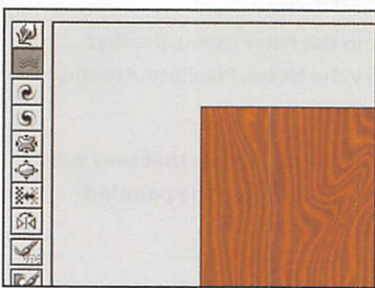
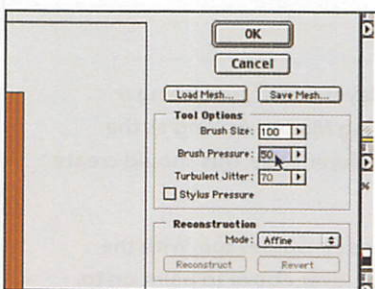
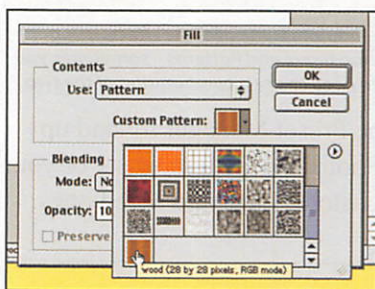
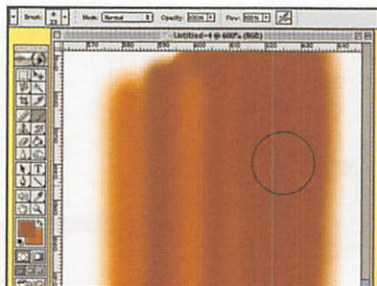
Organise patterns with Preset Manager

We've seen the Preset Manager window before but you might not have noticed that you can change other kinds of presets – click the Preset Type and select Patterns. Just like our brush libraries, this allows us to load up other Photoshop-provided lists of patterns, or save your own.



Down in the woods

Remember, not all wood looks the same. The grain we made in this tutorial looks a little like walnut, but other types will contain less knots, smoother lines and be coloured differently. Your best bet for visual inspiration? Look around you – table tops are the first obvious choice, even if they're just fake vinyl-covered. Then go out and find some trees!



1 Make a 1000 by 1000 pixel blank canvas, then zoom in to 600%. Choose a dark brown for the foreground by clicking on the Foreground Color in the toolbar and then using the Color Picker window. Pick a different dark brown as the background colour. Then, using a variety of soft and hard-edged brushes, paint vertical stripes (hold [Shift] whilst painting) over each other.

2 Using the Rectangular Marquee, select an area that will be the basis for your repeating pattern. Then select Edit > Define Pattern and name it 'wood'. Now deselect the area by clicking Select > Deselect or using the shortcut [Alt/Option]+[D]. To fill our canvas with the Pattern, click Edit > Fill and in the pop-up window, Use > Pattern. Select your new pattern from the bottom of the thumbnail list.

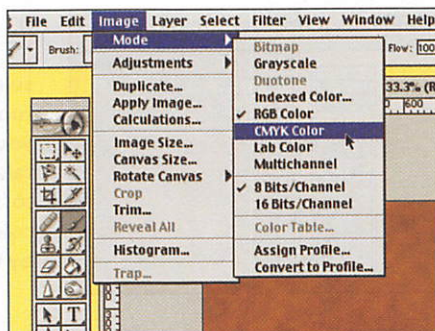
3 It still doesn't look much like real wood, so we need to add some grain. Select Liquify from the Filter menu and you'll be faced with a huge pop-up. Keep in mind that the work we're doing here is pretty major, so each change may take a moment to appear on the screen. Set Brush Size to 100 and Brush Pressure to 50.

4 You can now use the tools on the left to alter the image. The top six will be the most useful: Warp, Turbulence, Twirl Clockwise, Twirl Anticlockwise, Pucker and Bloat. Try using them with different brush sizes and pressure settings and don't be afraid to go a bit wild – you can always go back to square one by clicking Revert. When you've finished click OK. Viola, instant wood!

RGB, CMYK and Grayscale

Before we get too involved in colours, just what is the difference between various colour types?

On creating a new file you may have noticed the Mode option, which can be set to Bitmap, Grayscale, RGB, CMYK or Lab Color. For Brush work we're only really interested in three of these. RGB colours are made up of Red, Green and Blue, as these are the three colours that make up a monitor pixel. CMYK mode is also made up of three colours – Cyan, Magenta and Yellow, but Black (K) is also used to make up the full range of shades in the same way that a printer mixes colours. Finally, Grayscale



You can easily convert one file type to another by clicking on **Image > Mode** and then selecting the new colour mode

files are made up of shades of grey – you can think of them as 'black and white' images.



Out of gamut

Be aware that it is possible to choose colours which a printing device can't print using any mixture of inks – on the palette, a warning triangle will appear. These colours can be seen as grey in an image if you click on **View Proof Setup > Working CMYK** and then **View > Gamut Warning**. If you find any such colours you can either change them in the image (more later), or just press ahead, allowing the printer to produce the nearest possible colour.



Web-safe colours

On picking RGB colours, keep in mind that not every colour in the range is guaranteed to show on all monitors – hardware, screen types and monitor temperature will affect this. To ensure that most people will see your paint work as it should be, only use 'web-safe' colours. Tick **Only Web Colors** in the Color picker window or in the Color palette and select **Web Color Sliders** from the arrowhead menu.

MIX IT UP

- ☐ **RGB** colours are made from measurements of Red, Green and Blue, from 0 to 255, for example: R23 G150 B255. This type of file is suited for use on monitors, televisions or anything that uses a screen to display colour. RGB Color is also the most useful mode, as it allows access to all the Photoshop options and filters.
- ☐ **CMYK** colours are made from Cyan, Yellow, Magenta and Black and each is measured as a percentage, e.g. C23 Y79 K100. Most domestic printers will automatically convert RGB files into their CMYK equivalents. If you're supplying images or photos for other printers though, check to see what file type is needed.
- ☐ **GRAYSCALE** files are made up of shades of grey and simply measured by the amount of black, 0-100%. It is not advisable to work with Grayscale files unless you know for certain that they will be outputted as grayscale too – they can't be converted into colour.

Making colours and swatches

There are many ways to select a colour in Photoshop – let's walk through a few of them



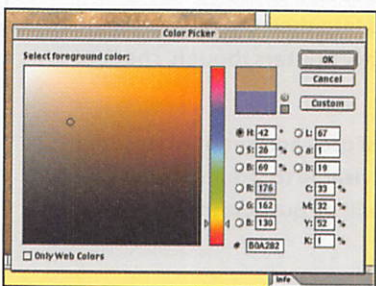
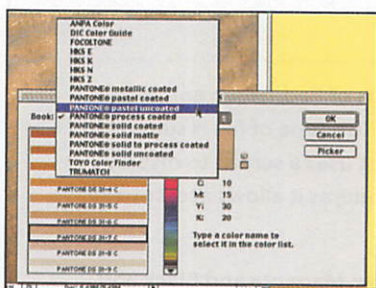
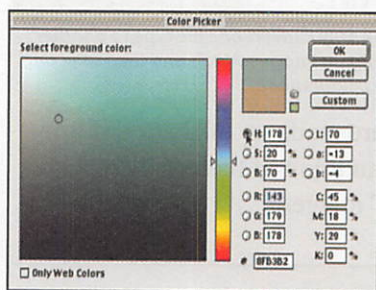
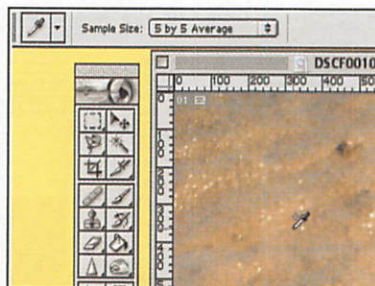
Instant colour scheme

Make a beeline for www.colormatch.dk – like all of the best web sites, the idea is very simple. The red green and blue sliders are like the ones we find in Photoshop, but the idea here is to mix a colour which is then automatically matched with five other colours to make up a complementary palette. Keep in mind that the colours are referred to by their Hexadecimal (or HEX) numbers, e.g. #FF002A



Color Sampler tool

Whilst using the Eyedropper, [Shift]-click to place a colour sampler on the image. These are numbered and read information about the colour into the Info palette. They only appear when you have the Eyedropper or Color Sampler Tool (under the Eyedropper) selected, so they don't interfere with the image layout too much. Using the Color Sampler tool you can also drag the samplers around and you can remove them by doing [Alt]-click.



1 Open a photo file – you can use any of the image files on your cover CD. To select an existing colour, pick the Eyedropper tool and click on the photo. If the colour in your image is mottled or textured, you can take an 'average' colour by setting Sample Size to '5 by 5 Average'. To pick a background colour, first click the double-ended arrow icon by the colour previews in the Toolbar.

2 Clicking the Foreground or Background Color in the Toolbar opens the Color Picker. Notice all the tick boxes, allowing you to pick colours according to Hue/Saturation/Brightness/Red/Green/Blue or LAB colour (L is lightness, 'a' represents the colours from green to red and 'b' represents blue to yellow). Keep the original H ticked as it helpfully shows the full spectrum of colours in the slider.

3 Note you can also choose RGB, CMYK or HEX colours by entering numbers in the fields – useful when you need to choose an exact colour by name. You may often hear people talking about other colour types such as Pantone colours. If you click Custom in the Color Picker, you can then pick colours from a range of books, just like looking at sample books of paint in a DIY shop.

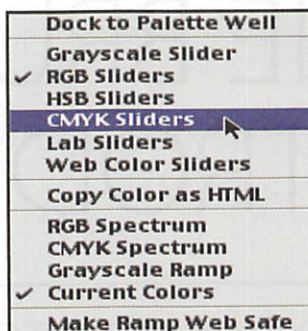
4 Whilst the Color Picker is open you can quickly check a colour in your image – simply move the mouse off the window and click on the canvas. Finally, the Color Picker's slider is used to pick a colour according to the primary parameter; the larger swatch sets the secondary parameters. For example with H ticked, the slider shows all Hues and the larger swatch governs Brightness and Saturation.

Color and Swatches palettes

The Color palette acts as a shortcut to the Color Picker; the Swatches palette lets us save colours

The Color palette doubles up the function of the Color Picker window, but that's no reason to ignore it. To start with, it can be left open for easy access – by default you'll find it stacked with the Swatches and Styles palettes. The slider system works a little differently but this allows you to see exactly what levels of Red, Green and Blue or Cyan, Magenta, Yellow and Black make up your colour.

The strip-shaped Ramp at the bottom of the palette allows for another method of picking your



Change the type of sliders used to select a colour ('Sliders' group of menu options) and the function of the Ramp (bottom five menu options)

colours. Once the perfect colour has been obtained you won't want to lose it – save it in the Swatches palette.



Preset Manager

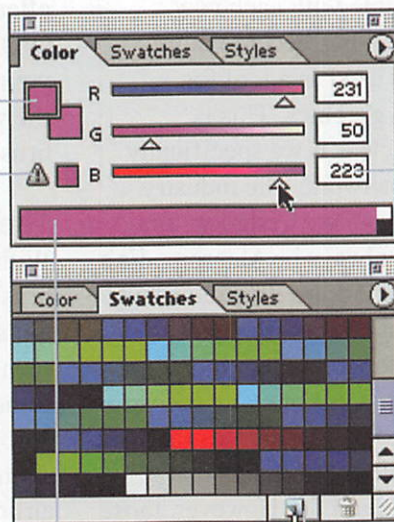
Once again we wheel out the Preset Manager – you'll soon understand how useful this little window can be! In the Swatches palette, click the arrowhead icon, then Preset Manager. From here you can see the colours listed, replace one swatch of colours with another, load in extra swatches or add custom-made swatches.

THE PALETTES

Click the foreground or background colour thumbnail to define which colour you are setting. Click on it again to pop-up the Color Picker window.

This hazard triangle shows the current colour is Out Of Gamut, so unless it is changed the printer will replace it with the closest printable colour.

This ramp can be set (via the menu) to show the RGB Spectrum, CMYK Spectrum, Grayscale Ramp or Current Colours. Click on a colour in the ramp to select it.



The arrowhead icon which accesses the Palette menu. From here you can set the kind of sliders and ramps used to mix colours.

Enter numbers 1-255 for RGB colours or 0-100 for CMYK and Grayscale colours. Alternatively use the sliders to mix a colour.

To save a foreground colour, click the 'New File' icon. To delete a colour from the current swatches, grab and drag it to the bin.

Chapter 6

PAINTING WITH THE BRUSH – AN INTRODUCTION

In this chapter...

- ☐ Use brush settings to create realistic media types
- ☐ Make a 'stencil' to spray with
- ☐ Explore the arts of watercolour and charcoal drawing
- ☐ Paint with custom brushes in a variety of styles
- ☐ Discover new approaches to shading

Now that we've got a canvas and paints ready, it's time we got down to painting. This chapter explores techniques and methods for creating stunning artworks using the Brush alone

As Photoshop has become more flexible with each new version, so it has become more commonly used as a tool for generating graphics. This is especially clear if we specifically look at brushwork. The industry standard for many designers and artists will always be Macromedia's Freehand or Adobe Illustrator, but this is often because they have always understood them to be 'the tools for the job'. In many scenarios, this is certainly the case, as there are of course plenty of things that Photoshop can't do. However, those in the know are increasingly turning to Photoshop tools such as the

brushes to create stunning artwork – after all, why splash out on two applications if one will cover all your needs? This chapter explores the wide range of painting and brush techniques available to us.

The artist in you

With a little patience, the Photoshop brush can be used to emulate art tools from real life. We've already seen this in our Photoshop wanderings – for example, the Airbrush setting in the Options bar simulates the behaviour of a real airbrush. By setting the Brush palette controls, we can do a passable impression of many other



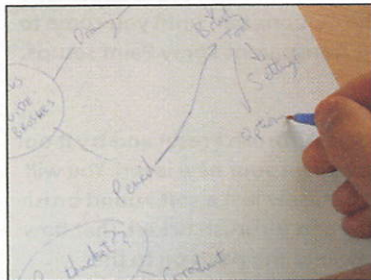
Page 50 Spray to your heart's content using a 'graffiti-style' brush



Page 51 Use various selection methods to create a stencil to paint through



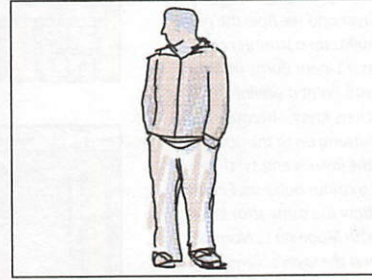
Page 52 Watercolour can also be simulated using a combination of tools



Page 53 Sometimes it's hard to be inspired – try putting pen to paper



Page 56 Use Filters applied to your drawings to create striking art effects



Page 57 Use Layer Masks to apply shading effects to your artwork

media types. And once the brush looks right, the application is just as important, so we'll be looking at how the brush types can be put to best use. This will involve a wide variety of scenarios – using charcoal for life drawings, watercolours for landscapes, oils for portraits, spray cans for graffiti to name but a few. In many cases we don't even need to start with a 'blank' canvas – we will be painting on woven fibres, walls and cartridge paper as well.

A world of inspiration

The intention of this chapter isn't really to tell you what to do, but rather what you *can* do. Hopefully,

the tutorials and tips provided here can inspire you to think creatively about your own work and how you can apply the Brush tool in a wide variety of ways.

Our advice should act as a springboard to greater things but there are plenty of research tools, brainstorming techniques and ways of looking around you that will kick up other inspirational pointers. The web is a good place to seek out inspiring work but remember there is a world outside your computer – look all around you for patterns, shapes, colours, even atmospheres, sounds or moods that could influence your work.

Graffiti spraying

"Watch out, it's the cops!" Don't panic, creating realistic graffiti in Photoshop is totally legal



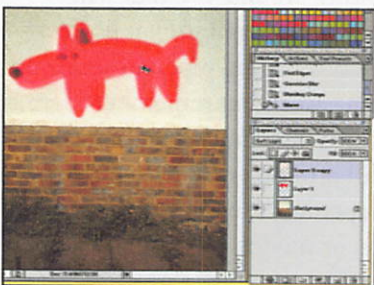
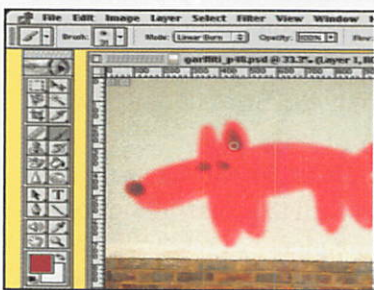
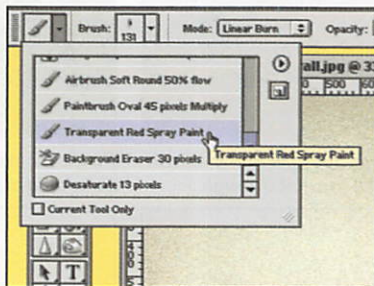
Burning issue

Try painting the Transparent Spray preset on to the *white_wall.jpg* background layer and see how the paint builds up a stronger colour as it 'Linear Burns' into the wall. Paint a similar stroke in a new layer – because it is burning on to transparency (the layer is empty) there is no colour build-up. Finally draw the same stroke but with Mode set to Normal and the layer's blending mode set to Linear Burn – it is the same as our first stroke.



Graffiti inspiration

Graffiti is illegal in most places, but no one's stopping you looking at graffiti web sites for inspiration. Try www.graffiti.org, www.berlingraffitisux.de, www.duncancumming.co.uk, www.woostercollective.com or simply unearth thousands of similar sites by typing 'graffiti' into google.com. Try to pick out different styles, how backgrounds and 'canvases' complement the subject, how the painting works with 'street furniture' such as road signs and vehicles. It should inspire you to come up with some interesting Photoshop vandalism of your own.



1 Open the file *white_wall.jpg* from the Tutorial section on your disc. As we're still learning about spray paint effects, create a new layer by clicking the file icon at the bottom of the Layers panel. We can start by looking at two Tool Presets. Select the Brush tool and then scroll through the list of Tool Presets (in the Options bar) until you come to Airbrush and Transparent Spray Paint setups.

2 Select the Airbrush Preset and try it out on the wall (in your new layer). You will notice this is basically just a soft, round brush with 50% Flow and Airbrush ticked. That flow setting helps blend the paint on to the textured background – zoom in and you'll see how that works.

3 Now pick the Transparent Spray Paint Tool Preset and see how this differs. Obviously, the brush head is an oval shape – correct this in the Brushes palette. The Flow is a little lower but, most interestingly, the Mode is set to Linear Burn. If your paint colour is dark, it will darken as you build up layers – if it's light, it will darken less.

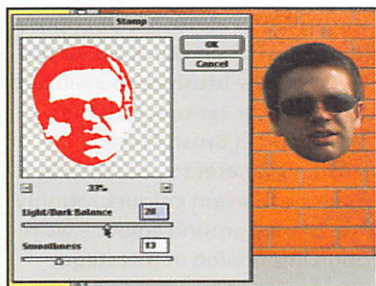
4 Finally, right-click (PC) or [Control]-click (Mac) on the new Layer and Duplicate Layer. Then click Filter > Stylize > Find Edges, then Filter > Blur > Gaussian Blur (by about ten pixels). This will create a spray-effect outline of your image. If you now change the Blending Mode of this layer to something like Soft Light and move it around using the Move Tool, you can add realistic shading to your graffiti.

Stencil graffiti

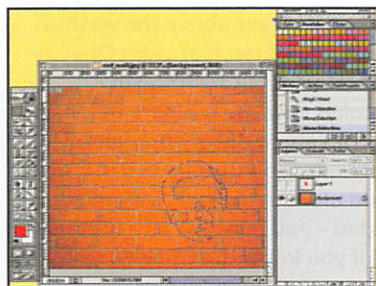
You may have seen stencilled graffiti around – we can produce the same effect in Photoshop



1 Open the file you would like to spray on to – you can use red_wall.jpg from the Tutorial section on your disc. Then open face.jpg. Next use the Lasso Tool to roughly draw around the face, then switch to the Move Tool. Align the red_wall.jpg canvas next to face.jpg, then grab from the centre of the selected face and drag it on to the wall, i.e. from one file into a new layer in the other file.



2 In red_wall.jpg [Control]-click (PC) or [Command]-click (Mac) and the Transform frame opens round the face. Hold down [Shift] (to constrain the dimensions) and drag from any corner outwards, enlarging the face. Hit [Return] to okay this change. To make the stencil shape, click Filter > Sketch > Stamp. Set Light/Dark Balance to 28 and Smoothness to 13 to resemble a cut-out stencil. Hit OK.



3 Select the Magic Wand tool and untick Contiguous so we can select all areas of one colour. Click on the coloured part of the face to select it. Then click the Eye icon on the face layer to turn it off – we have our stencil! Select the Background Layer. Now we can move the stencil – select the Rectangular Marquee and hover over your stencil shape – when you see the Move tool, drag it around.



4 Create a new Linear Burn (Blending Mode) Layer. To soften the edges of the stencil, do Select > Feather and enter 1 pixel. Select a colour and large, soft Brush. Set Flow to 25% with Airbrush. In one rough pass, paint over your 'stencil' marquee. Then Select > Feather by 15 pixels and paint back over some areas. Do Edit > Transform > Perspective and re-shape the graffiti to lean up the wall.



Banksy

Banksy is one of the most famous purveyors of stencilled graffiti, regularly subverting suburban streets with his self-styled 'Brandalism'. His recent gallery exhibition even featured artwork sprayed on to farmyard animals. To find out more about his work, visit www.banksy.co.uk.



Quick shape transform

Your spraying might need a little tweak to make it look as though it's sprayed on to the surface. Do [Control] click (PC) or [Command] click (Mac) and the Transform frame opens around the object. Drag the handles to change the shape and size of the object – hold [Shift] at the same time to constrain proportions. To skew the shape, hold [Control] + [Alt] (PC) or [Command] + [Alt] (Mac) whilst dragging a handle. To change perspective, hold [Control] + [Shift] or [Command] + [Shift] whilst dragging.

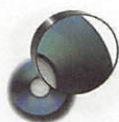
Watercolour painting

If Photoshop had been around in Monet's time, who knows what he might have created...



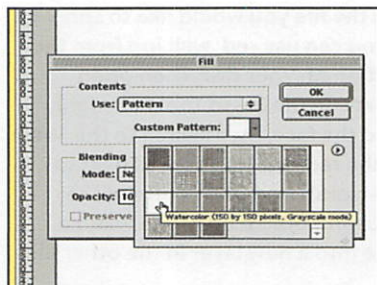
Stack it up

Rather than stacking new layers of watercolours according to the amount of detail (as shown in this page's tutorial), why not layer them according to how far away they are? So the mountains would be on the bottom layer, then the trees, then the grass, then the stream. Then you can alter Opacity to additionally fade elements into the background if necessary.

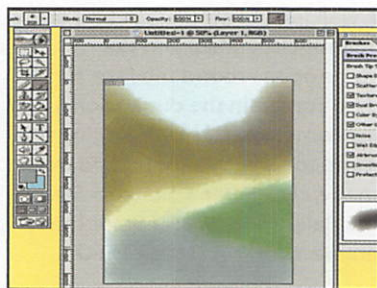


More masterpieces

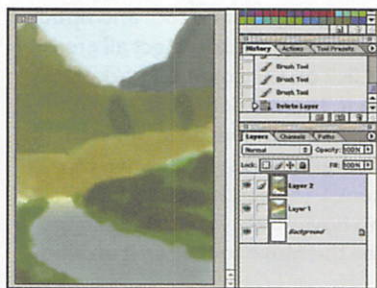
You will find two more watercolour pieces of mine on the CD – *night.jpg* and *shoreham.jpg*. You'll see that although I couldn't drag my Mac out 'on location', I've still managed to at least capture the atmosphere. Watercolour painting isn't necessarily about illustrating every nook and cranny – the impression is more important, which is why artists will often paint vast, wide landscapes using this method.



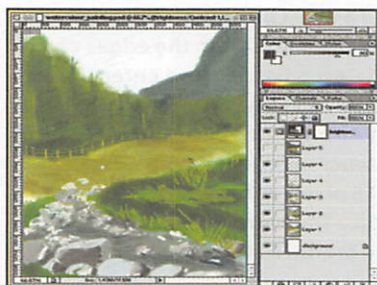
1 First find a photo to base your painting on – I would suggest a landscape, like the one in *watercolour.jpg*. Use a printed image so that you can see the colours better. Then open a 72dpi file that matches the dimensions of your photo. Use the Preset Manager set to Patterns to load up the Artists Surfaces group. Then click on **Edit > Fill > Pattern** and choose the Watercolour type.



2 From the Brushes Palette menu, choose **Wet Media Brushes** and click OK. At the bottom of the list of new brushes, you will find six different Watercolour set-ups. Pick the **Watercolor Fat Tip** and in **Brush Presets**, change the **Master Diameter** to 200. Then in a new Layer, using the relevant colours, roughly block in washes of background colour – we're just after a rough impression at this stage.



3 Create a new layer, above the washes. Now use the **Watercolor Light Opacity** brush to add more detail, painting in horizontal strokes – we are building detail and lighting up in levels, so don't worry about adding grass, rocks and the like yet. Then in a new layer add more detail with **Watercolour Heavily Loaded** – you may find it helps blend in the detail if you lower the Opacity.



4 Keep adding layers like this and don't be afraid to change some of those brush settings as you go. For example turn off the **Dual Brush** for a smoother edge, or set some **Pen Pressure** controls if you're using a graphics tablet. Once all the layers are built up, use the **Opacity** control on each one and experiment with **Blending Modes** until they balance into the picture.

Getting inspired

Do you ever find yourself staring blankly at the monitor, waiting for ideas? You'll overcome it

However creative you are, everyone hits a brick wall at some time or another. You may have the greatest intention to produce some fantastic work and even feel like there is nothing that can stop you, but when it comes to the crunch, there's nothing going on in the brain department.

This is, of course, especially distressing if you're doing a piece of professional work and find yourself up against a tight deadline. Sometimes the very situation of needing to be inspired and

desperately trying to force something out can worsen the situation – but there is a way out. Simply step away from the computer, it's as easy as that. Take a good long break – the chances are you'll not only be uninspired but stressed as well, so go for a walk, ride a bike, sit in the garden, read the paper. If television really helps you unwind, then go for that but I'd advise keeping away from screen-based diversions if possible. Then, as ideas start coming to you, note or roughly sketch them for later.



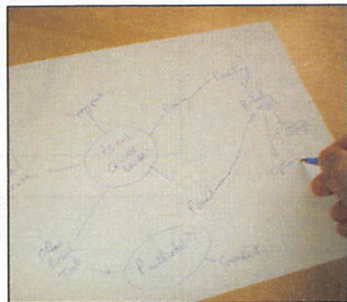
Goggle eyes

Staring at a screen for too long will not only stress you out but can affect your vision. Make sure you have regular eye tests – you can sometimes get these paid for by the company you work for if you also use computers a lot at work. Also check your posture – your body should bend at right angles at the hip and then again at the knee with your feet flat on the floor. The monitor should be positioned at eye level.

BRAINSTORMING

Sometimes pushing vague ideas around can help develop them

Start by writing the focal point of your brief or piece, even if this is just one word, on the centre of a sheet of A4. Surround this with other things you associate with it. Then start making connections outwards again, or even between items. Aim to cover your entire sheet with new associations. Don't worry about whether they're 'right' or 'wrong' – the idea is to get your creative mind working again. You could even apply the same process to sketching out ideas – taking an element, symbol or shape from one to develop into another. Or why not pick up your camera – images recorded on this 'visual notebook' can often be useful later.



You may find that putting ideas down on paper can be more productive than working at your computer screen

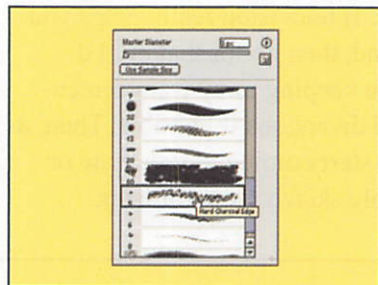
Charcoal – life studies

Charcoals are notoriously messy to work with – unless of course you're using Photoshop



Smudging

The finger is like a second brush in real charcoal drawing, so why not make it so in Photoshop too? Yes, there is a Smudge Tool! It is located on the Toolbar, seventh from the top, on the left – you may find it under the Blur or Sharpen tool. Depending on what you would like the tool to do, set the Mode in the Options bar to Darken, Lighten or Luminosity for general-purpose smudging.



1 Start with a new Grayscale file, 1000 by 1000 pixels and 72dpi. Select the Brush and in the Brushes palette, replace Brushes with Dry Media Brushes. We'll only be drawing with shades of grey (because this is a grayscale image) so the Color palette shows a simple slider which we can use to select colours – much quicker than using the Color Picker. Pick a 100% grey – also known as black!

2 If you have a graphics tablet, you can use it now. With the Brush selected, right-click (PC) or [Control]-click (Mac) on the canvas and Brush Presets will appear. Select Hard Charcoal Edge. See what controls have been set in the Brushes palette. If you are using a tablet, also add a Shape Dynamics setting – flick the Size > Control to Pen Pressure and push the Minimum Diameter up to 50%.



3 Now pick a subject and start drawing. The width of your Brush will respond to the pressure you apply to the pen, allowing for 'hesitant' scratches and scuffs. The low Flow setting of the Brush also adds to this effect – compare a fast stroke to a slow, deliberate one. Also try out the Charcoal Flat Brush – this gives a harder, sharper stroke, useful for more deliberate shading and detail.



Margie Crisp

This artist obviously takes a little more time with her work than I did – check out her site at www.margiecrisp.com/charcoal/ for the proof! Even though these are 'real' charcoal drawings, we can still apply many of the techniques. Notice how she uses smudged charcoal to create atmospheric washes, contrasted with the fine detail of grass, trees, fences and other features.

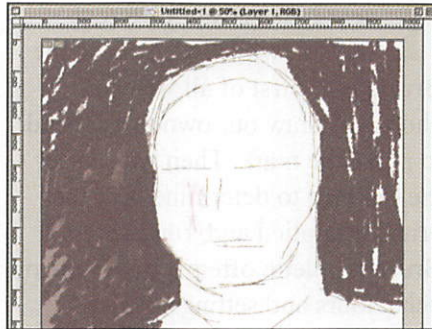


4 If you're using a graphics tablet, the reverse end of the pen may erase – otherwise you will need to switch to Eraser to rub away mistakes. Don't forget, you can set up Eraser with exactly the same brush type, Opacity and Flow settings as the charcoal brushes. This simple, quick way of drawing can be very rewarding as the charcoal brushes do a good job of emulating the real thing.

More 'real' brushes

We've looked at a few techniques from the artist's box, but there are lots more to discover

Over the last few pages we've done a pretty good job of mixing brush and technique to simulate a variety of artistic disciplines, but there are plenty more to play with. Try out the Dry Media, Wet Media, Natural, Thick Heavy, Calligraphic and Assorted brush libraries and remember that hovering the mouse over a thumbnail in the Brush Preset picker gives you the name. So far we've been using brushes from the same set in each image, but there's nothing to stop you mixing them – watercolour



Use mixed media to suit different needs when painting – wet brushes for washes, dry ones for textures, fine ones for details

artists will often sketch out a painting in pencil first and pencil sketches can easily be coloured with 'inks'.



From your head

You don't always need to be working from a concrete image to create artwork – in many cases you will want to draw something without having the object, a photo or the scenery in front of you. It's fine to work from memory or just make it up altogether as long as you understand proportions, perspective and the like. For example, many people draw eyes near the top of a head, but in fact they sit halfway between the chin and crown.

REALITY BITES

- ☐ **CUSTOMISE** the Photoshop brushes where necessary to make up exactly what you want. Most of the time though, the brushes provided in Photoshop will get close enough so you don't have much tweaking to do.
- ☐ **DRIPS AND RUNNING** 'wet' paint can be created. Pick a large, soft, round brush. In Shape Dynamics, set Size Jitter to 0, Control to Fade (25 steps) and Minimum Diameter to 50%. Tick Wet Edges. Now draw a drip starting from the bottom upwards.
- ☐ **POINTILLIST** brush types can easily be made up. Start with a brush with a fine, round, hard head and set the Size Control in Shape Dynamics to Fade over 20 steps. Add Scatter settings for more points on each click.
- ☐ **OIL PAINTING** brushes can be found in the Wet Media brush library. Allow yourself to be bold with some of these chunkier brushes, but don't forget you can use Layers for extra security.



More vandalism

We've looked at graffiti spray cans on walls, but what about other media? If you've used a public toilet recently you'll know how people use marker pens, biro and even scratching to leave their mark on walls and doors. A level of communication even takes place as people respond, cross out and answer previous messages. So why not use a photo of a toilet door as a kind of message board? You send it off, someone writes on it, they pass it on to someone else, and so it goes on.

Using filters for brush effects

We've seen how the brush controls are used, but why not let filters do some of the work?



Useful groups

Try to identify the most useful groups from the list. If you're looking for 'paint' effects, go for Artistic, Sketch or Brush Strokes. From here you can recreate all kinds of brush effects, many which you couldn't recreate with a brush, because the Filter also creates the way in which a brush stroke appears. For example, draw something and then apply Cross Hatch – would you have been able to do that as quickly with the Brush tool?

There are hundreds of different ways in which we can use the Brush tool. First of all we can choose or draw our own brush head to make the mark. Then we can set the Options to determine how the brush is applied and, finally, the Brushes palette offers a multitude of behaviours and settings, which determine how the stroke is painted. But what if we ignored all of that and found a different way of spicing up our artwork? This is where the Filters come in.

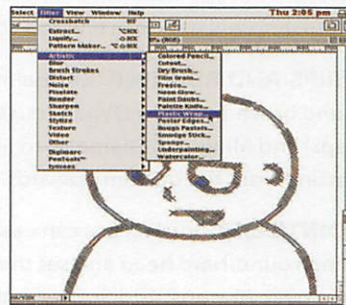
First of all make sure that you're

working with an RGB file, as CMYK files don't allow us to use all of the Filters. If you need to finish up with a CMYK file, you can always convert it later. Then draw an object with a simple brush shape – something from the default sets. Now open the Filter menu and take your pick from the options on offer. You will see that they are organised according to type or use. Also note that filters respond differently according to what they are applied to – does your layer have a white background or is it transparent?

WOAH THERE!

Hold your horses, those filters can get ugly if you go too far

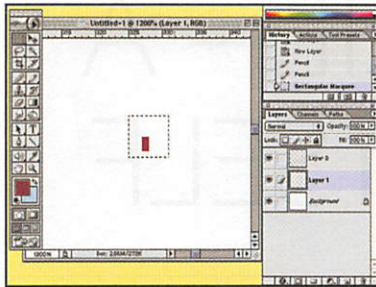
Photoshop filters are something of a bone of contention among designers and artists. If you've been on the web and seen lots of digital artwork, you will begin to understand that there are some people out there really overdoing the 'filter thing'. Used in moderation filters can enhance paintwork, but once you've crossed the line into bad taste your lack of skill, imagination and an eye for aesthetics will be glaringly obvious. The best advice is to apply filters carefully and decide if each change actually does something for the image or is just an excuse for bad painting – you can use the History panel to flick between 'Before Filter' and 'After Filter'.



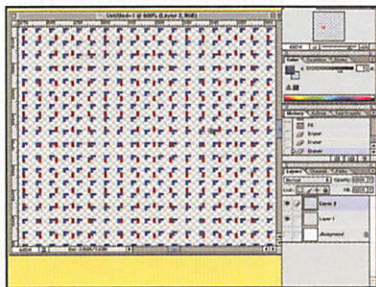
A simple drawing with Cross Hatch applied – so what should I pick next? Mix and match but don't overdo it

Shading with masks

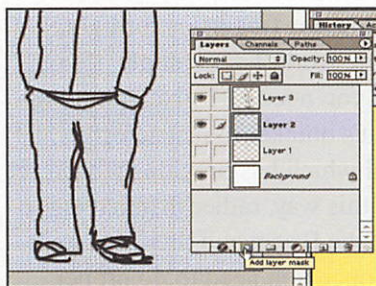
We've looked at plenty of painting techniques, but how about applying some subtle shading?



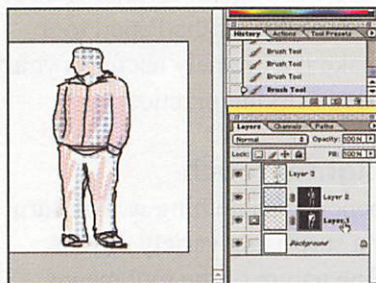
1 Pick a subject to work from, something with plenty of hard shadows, and start a new file. Then create two new empty layers for the shading to go into. As we need to generate shading patterns first, zoom right into your canvas on one of the new layers and, using the Pencil Tool with Brush set to 1 pixel, draw a line two pixels high. Then draw a rectangular Marquee around this, leaving plenty of space.



2 Turn off the visibility on the background layer, then do Edit > Define Pattern and call it 'shade1'. Then Select > Deselect. Repeat the process in the second layer, so you have two patterns saved. Erase the original graphics in each new layer to clear it before filling. Then in your first layer, do Select > Deselect, then Edit > Fill > Use Pattern and pick shade 1. Fill the other layer with shade 2.



3 You can turn the background layer back on now and zoom out if you like. For the moment, turn off both your new patterned layers and create a new one above them. Using a thin, hard brush (or even a pencil) draw a rough outline of your subject. Then turn on and select the layer containing the darkest pattern, and [Alt]-click the Add Layer Mask icon at the bottom of the Layers palette.



4 The pattern will disappear because it's masked out by the black mask, but using various shades of grey you can paint the pattern back in. Select your greys using the Grayscale Slider in the Color palette – white will give the strongest pattern and black none at all. Remember you need to have the Mask thumbnail highlighted in the layer when you paint, not the original pattern thumbnail.



Cross-hatching

You can use the technique shown here to produce a cross-hatching style of shading. Make sure that one of your patterns creates a diagonal striping effect running 'uphill' and that the other fills the layer with 'downhill' stripes. If you keep the stripes widely spaced in the pattern, you'll find that the shading will look quite natural, as if pencilled in.



Flexibility

As well as allowing you to change the opacity of your shading (by picking various shades of grey) and choosing between as many patterned layers as you care to use, don't forget you can still set up the brush as normal. This means you can use any brush type to create the mask – just make sure you keep the mode as Normal in the Options. The mixture of textured brushes with patterns should produce some interesting results.

Chapter 7

DRAWING WITH THE PENCIL – A TOOL IN ITSELF

In this chapter...

- ☐ *Trace from original photos with the Pencil*
- ☐ *Recap on the Pencil tool and its controls*
- ☐ *Learn simple sketching techniques*
- ☐ *Use the Pencil to block in compositions and lay out artwork*
- ☐ *Develop skills in fine 'pixel artwork'*

We've only looked at a few uses for the Pencil tool so far, but this chapter should prove that it's not simply a variation on the Brush, but an extremely useful tool in its own right

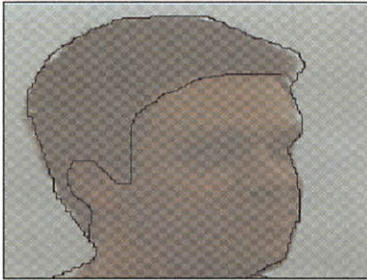
It might feel as though we've covered the Brush extensively at this stage – in previous chapters we've looked at all the settings and controls and how these can be applied in a variety of ways. There is more though, especially if you consider that we haven't even touched photographic work yet – that might seem strange when you consider we're working with Photoshop but we'll come to that in Chapter 8, I promise. For now though, it's time to take a break from the Brush and spend some time with its little brother, the Pencil tool.

Although the Brush can be set up with any kind of brush head or

controls, it's useful to have the Pencil at our fingertips for light, delicate work. For example, if you know you need a '1 pixel' painting tool, it's quicker to just select a pencil which has previously been set up in this way, rather than having to re-set the Brush and then change it back once you need to do proper brushing work again. If nothing else, the accessibility of the Pencil tool will make it extremely useful in your everyday working practice.

The lighter touch

The pencil is something we can turn to for a surprising variety of jobs. The fine nature of the tool means



Page 60 Use original photographs to trace realistic images using the Pencil



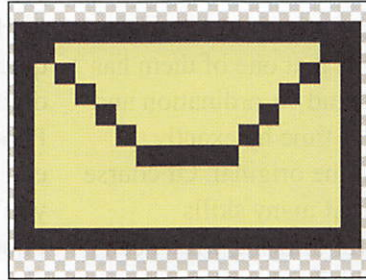
Page 61 Use pencil 'effect' brush libraries as supplied with Photoshop

Name	Favourite Cheese

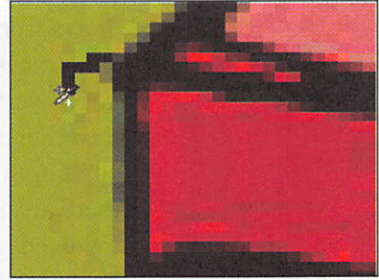
Page 62 Create neat tables using Guides to lay out and then Pencil to draw in lines



Page 63 Learn the difference between anti-aliased and aliased images



Page 68 Create icons and symbols for the web using the Pencil tool



Page 69 Use the Pencil to fix glitches and stray pixels in your images

that it's perfect for 'mark making' without actually adding huge, permanent changes to an image. To take an example, you might be planning a big job but would like to sketch out a rough composition first – you could create a layout layer and just sketch into that. You can then add to this layer as new ideas occur to you throughout the project, but because the drawing is so 'thin' you don't need to worry about it overwhelming the rest of the image. Of course, the Pencil also stands out as a drawing tool in its own right – most interestingly, as we'll discover, any brush preset which is applied to the Pencil is not anti-aliased (see

page 63 for more on this) and is rendered in only the foreground colour. This makes for a very strong, sharp and definite brush stroke.

Pixel perfect

As the Pencil tool can be applied so delicately, it lends itself to its own sub-genre of web artwork. You may have seen this before – images that are literally drawn pixel-by-pixel. It probably sounds maddeningly frustrating, but the Pencil tool makes it that much easier and the results can be impressive once you get the hang of it. So without further ado, sharpen your pencil and let's get on with some drawing!

Using photos as a starting point



Tracing cheaters in history

In Victor Stoichita's 'A Short History of the Shadow' he makes the point that Pliny the Elder, the famed historian of 1st Century Ancient Rome, wrote that "all agree that [the origin of the art of painting] began with tracing an outline around a man's shadow". So really, in doing the same thing with Photoshop we're just using modern tools to follow that trend!

If you want to create a realistic drawing from a photograph, why not use Photoshop layers?

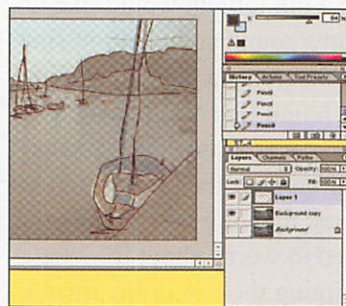
Before we go any further, let's get one thing straight – tracing is absolutely not cheating. Many artists will regularly create 'photo realistic' artwork – and the only difference between someone who draws from a picture and someone who traces it is that one of them has good eye-to-hand co-ordination and the other saves time by exactly copying from the original. Of course there are a great many skills involved in life-drawing which can be learned and developed over time, but if you are simply going for a

'recording' of a shape and you have a photograph of the subject to work from, then tracing it can save you a great deal of time. And even if you would like to accurately draw a scene and you don't have a photo to work from, it would probably still be quicker to take a picture with a digital camera, import it into Photoshop and start from there. The end result will be no less 'worthy' if you've had a helping hand from Photoshop – and the people that are going to see the finished product won't know any better, will they?

TRACING NOT CHEATING

Here's how to simply trace an image in Photoshop

If you have a photo to work from, open it in Photoshop and duplicate it into a new Layer (right-click (PC) or [Control]-click (Mac) on the background layer). Turn off the background layer (click the eye icon), reduce the opacity of your duplicate layer and you have a faint guideline to work from. Create a new layer at the top of the stack and use the Pencil tool to trace the outline and distinctive shapes. You may find your Pencil colour gets lost against the photo; in this case, draw with a brighter colour and when you finish tracing click on Image > Adjustments and choose Hue/Saturation, Brightness and Contrast or a similar re-colouring control.

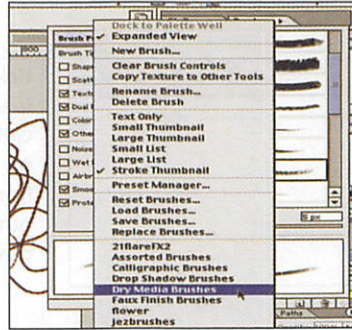


Even fairly rough outlines will appear quite realistic and well-drawn when traced from an original photo

Pencils in brush libraries

Some of Photoshop's brush libraries contain accurate recreations of real pencil effects

An experiment. Select the Brush tool and then in the Brushes palette, replace your current brushes with the Dry Media Brushes set. Then find the brush called '#2 pencil' and try it out on your canvas. Then select the Pencil tool and set it to that same brush. Draw on the canvas and you'll notice it doesn't react in the same way – in fact it doesn't draw at all. So, some brush presets won't work in the same way when applied to the Pencil as with the Brush. As you probably won't use these brush presets on a regular



Load up the Dry Media Brushes from the Brushes Palette menu to obtain a set that contains many varied and useful pencil brushes

basis, don't worry too much. Just set them up and use them with the Brush as and when you need them.



Custom pencils

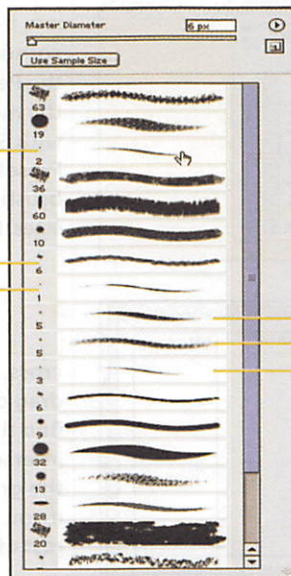
Don't forget you can always customise any of these supplied brushes to your liking and save them as your own. So, what do we need to consider when creating customised 'pencil' effects? Try out a few real pencils on paper. Note how pencils of different 'hardness' draw differently – a 2B is darker than a 2H. A blunt pencil also draws differently to a sharp one, typically involving more random texturing. The type of paper also makes a difference.

PENCIL 'BRUSHES' EXAMINED

#2 Pencil – A good starting point for a fine, delicate pencil effect.

Wax Pencil – This is akin to use a fat-tipped wax on paper and includes some of the texture found in rougher paper surfaces.

4H Hard Pencil – Similar to #2 Pencil but this also blends in with another texture in the Dual Brush settings.



Charcoal Pencil – Mixes in with a grid-shaped texture to create a charcoal-type pencil – dark and fatter than the previous ones we've seen.

Conte Pencil – Another relatively fat pencil. This uses Texture and Dual Brush settings to build up the strong stroke.

Graphite Pencil – A dark, deliberate pencil for strong outlines. Uses almost every Brushes Palette control, so is a little slow to paint with.

Drawing tables

Need to draw tables in Photoshop? The Pencil offers a clean, simple way of doing so



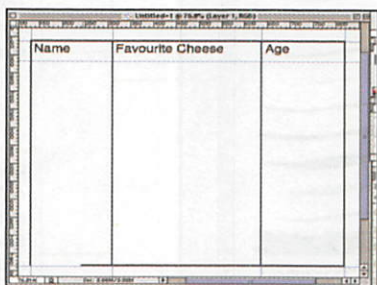
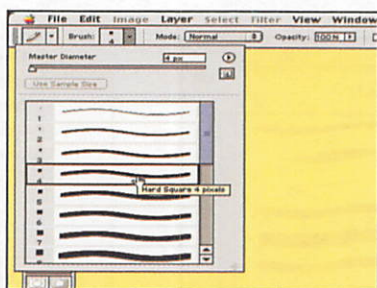
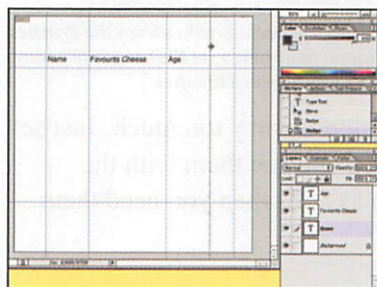
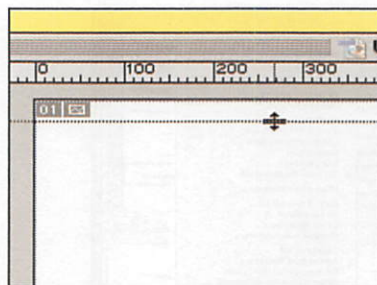
Aligned text

If your column headings are made up of different type layers, they probably won't be aligned in a straight line. You can use the guides again to do this job. Simply create a new guide and drag each piece of text over until it snaps to the line. Once they're aligned in a row, you can drag the guide back into the ruler to get rid of it.



Exact measurements

There are two ways of drawing your table to exact measurements. First of all, do View > New Guide. Then in the pop-up tick Horizontal or Vertical and enter the amount in the field and follow it with cm, mm or px depending on what you're using. Alternatively, pull the guides from the rulers as shown in the tutorial but watch the Info palette as you do so – this will give you measurements for the guide.



1 Start a new file to draw in. Then open the View menu and make sure Rulers is ticked. In the same menu make sure that Snap is also ticked, Snap To is set to Guides and Guides is ticked in the Show sub-menu. Back on the canvas, hover the mouse over the horizontal ruler, click and drag down to 'pull out' a guide. You can now slide this up and down to reposition it.

2 Create a vertical guide in the same way – in fact keep adding horizontal and vertical guides until you've drawn a table shape with three columns and boxes at the top for your column headings. Use the Horizontal Type tool to add those headings. If those guides aren't big enough you can grab and drag them into shape so everything fits neatly – they are only guides after all.

3 As we're drawing a grid we're better off using a square brush – otherwise the corners and line ends will be rounded. Select the Pencil Tool and, in the Brushes palette, use the menu to replace the current brush library with Square Brushes. If you check in the Brush Preset picker, you'll see that most of these brushes are simply square-shaped at various sizes. Pick the 4-pixel square brush.

4 Hover the mouse near the top-left corner of your table, where the guides cross. Hold down [Shift] and then click and drag down to draw a straight line. You should find that the start point snaps to that intersection of your guides and then follows the grid – it will also snap to the bottom edge if you stop drawing around there. Pencil in the rest of the table like this.

Anti-aliased versus aliased

We hear a lot about things being ‘anti-aliased’ but what, exactly, does this mean?

If an object appears in a layer and is surrounded by empty, transparent pixels (for example text on a photo) it won’t blend well against images in lower layers – that is unless it’s anti-aliased. The process of anti-aliasing adds semi-transparent pixels around the object’s edge to smooth the border between one object and another. Without this we would see a crisp, sharp edge of colour. Whenever you make a selection from an image or set controls for a tool in Photoshop, you may see an Anti-aliased tick box

in the Options menu – tick it to create this smooth edge.

So how does this apply to the Brush and Pencil? Well if you use a brush preset with the Brush tool, it is aliased where you would expect. So a soft-edged brush is obviously anti-aliased, as it fades slowly into the background. A hard-edged brush might look ‘crisp’, but if you zoom right in you can see there is some anti-aliasing. If you look at the same presets applied to the Pencil tool, you’ll see the difference immediately – again it helps if you zoom in.



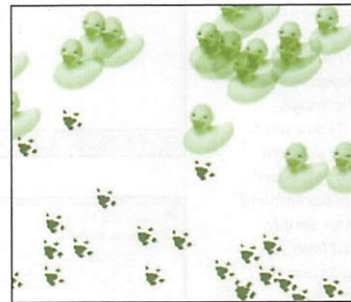
Removing anti-aliasing

If you have created a selection with anti-aliasing applied and then you paste this selection on to another background, you will notice that the aliasing has been based on the previous background and may look out of place in the new pasted location. The obvious decision is to untick Anti-aliasing when making the selection, but if you’ve already pasted, click on Layer > Matte > Defringe.

QUACK QUACK

Yes, ducks can help show us how the Pencil and Brush differ

First, load up a new library of brushes – we’re after the Special Effects Brushes. Then pick the Brush tool, scroll through the Brush Presets and around the middle you’ll find Ducks Not In A Row. Try it out on the canvas – cute eh? You’ll notice the ducks are rendered in various shades of your foreground colour with anti-aliasing around the edge of each. Now pick the Pencil tool with the same Ducks preset and draw again. Because of the type of brush head and in order to ‘alias’ the brush, it had to convert the brush into just the foreground colour for the dark details and nothing for the light areas. Hence it only draws the eyes and beak.



The ‘Ducks Not In A Row’ preset drawn with the Brush (top) and the Pencil, which only draws the eyes and beak

Planning layouts with the Pencil

You can share a rough sketch or layout by exporting it to a printable or emailable format



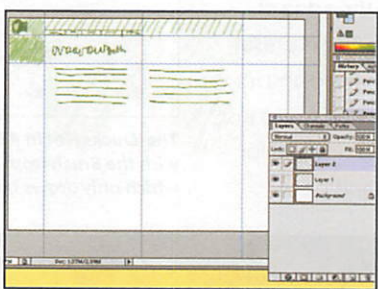
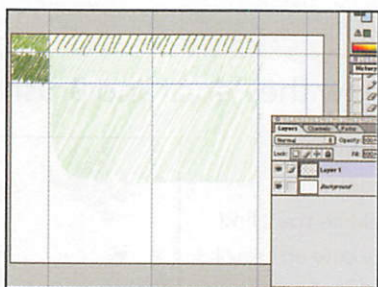
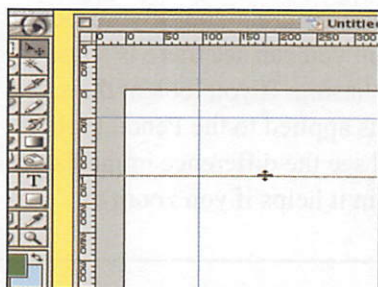
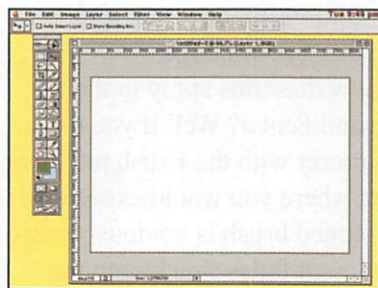
Illustrative sketches

This kind of sketching can give a strong impression of a design or layout. If you use a file with the same dimensions as your proposed output (e.g. 800 by 600 for an audience which typically uses lo-res monitors) then the client or test audience can try this in their web browser to see how it will look 'online'. All they need to do is select **File > Open** in their browser application and select the JPEG image.



Variations on a theme

When you save your file, click on **File > Save As** and pick JPEG. Make sure **Layers** is un-ticked in the **Save As** window. Also note that only 'visible' layers will be included in the image. This is useful if you want to try three or four different foreground layouts based on the original background shapes of colour. Simply turn off the last layer you were working on and start again in a new layer. Then 'export' the image repeatedly with different foregrounds. Easy!



1 Let's assume you're trying to design a web page – you can draw a rough sketch in Photoshop, then email it direct to your client. Start with a file that is 800 pixels wide by 600 pixels high to simulate the size of a web browser window as seen by users with low-resolution monitors.

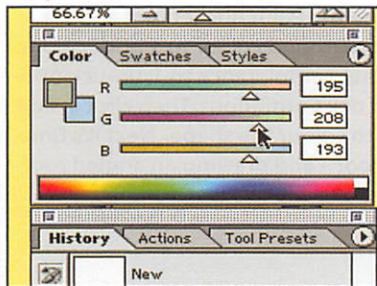
2 If you would feel comfortable working with guides, then make sure **Rulers** is ticked in the **View** menu. Then click on the **Ruler** part of your canvas and drag guides into the middle of the canvas. You can even encourage your drawing to follow these guides by ticking **Snap** and making sure **Snap To** is set to **Guides** (both in the same menu).

3 Then select a pencil with a fine, round head of around 2 pixels. This will show up enough in the image without appearing too strong. If you have a graphics tablet, it's a great time to use it as we'll be mostly drawing freehand forms. Create a new layer and shade in some areas where you think blocks of background colour might appear.

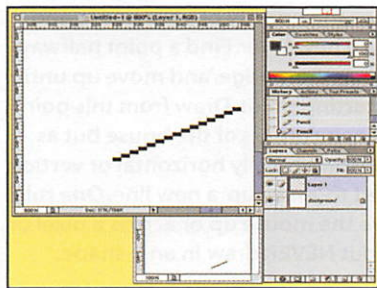
4 In another new layer, add more detail on top. Remember, holding **[Shift]** whilst drawing creates straight lines. If you feel the background shapes in the last layer are too strong, reduce the opacity of that layer as a whole. Keep adding layers of detail as much as necessary but remember, this is just a sketch. Then do **File > Save As** and select **JPEG** to create a small emailable image file.

Isometric pixel art – outlines

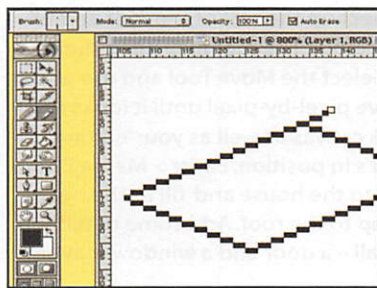
Pixel art was once the only artwork possible on a computer – now it's a whole genre in itself



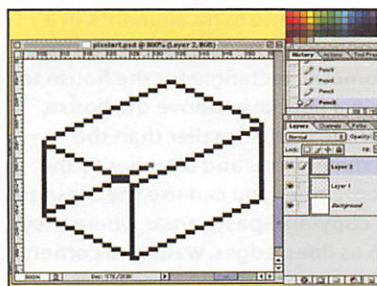
1 To start with, let's pick some colours. Be careful as very 'neon' colours will glare. This type of colour usually happen when two RGB sliders are high and the third is low, so using the RGB Slider in the Color palette (select this from the Palette menu) you should be able to avoid them. Make a Swatch of colours to work from – keep in mind that we will be drawing a house.



2 Make a 100 by 100 pixel file and zoom to 800%. Then do Window > Documents > New Window and the file will open in a new window, which you should zoom to 100%. This shows the image developing in 'real size'. Pick a 1-pixel black pencil. You may have seen drawings in isometric view – they work on a ratio of 2:1. In a new layer, draw an 'uphill' line to form the bottom edge of our building.



3 Draw a rectangular isometric shape to form the base of our house – remember, two pixels along for every one up. In the Pencil Options, tick Auto-Erase. Also make sure the background colour is the same as the background layer. Then if you slip with the pencil you can erase stray pixels by clicking on the offending pixel.



4 Now duplicate the layer, pick the Move tool and select this new layer. Using the arrow keys, move the rectangle up the canvas so it forms the top edge of our house. In this same layer, draw vertical lines to connect the top and bottom corners. Now we can see where edges will be hidden, Auto Erase the far edges of the 'bottom' layer. Do Layer > Merge Down to join the two drawn layers.



Pesky white pixels

If you use the Auto Erase function of the Pencil to erase unwanted pixels beware, because rather than erasing pixels it actually just paints the background colour over them. If you build your pixel art up in layers, you will start seeing annoying white pixels cropping up. The best way to make sure this doesn't happen is to actually use the Eraser (set to Block) to remove pixels instead.



Cutting corners

You will soon notice that drawing pixel-by-pixel takes time, so start looking for shortcuts. If you have two lines making a corner, duplicate the layer, then Edit > Transform > Rotate 180 and you have the other corner, to make a rectangle. If a line runs in one direction try doing Edit > Transform then Flip Horizontal or Vertical and it turns it around. Also make selections using the Lasso Tool (with Anti-aliased off) then copy and paste. This can be used to double the length of a line very quickly.



Isometric pixel art – outlines continued



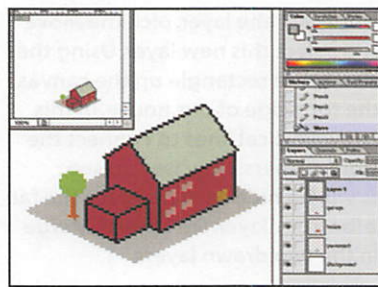
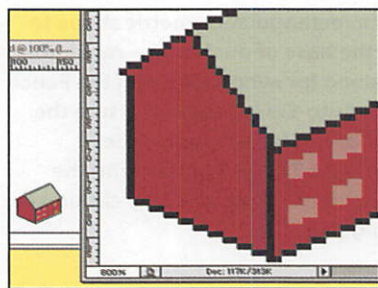
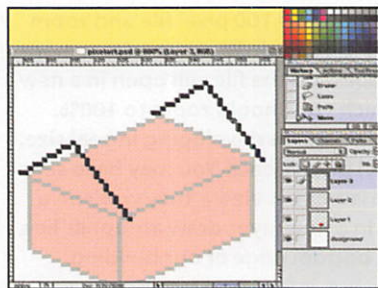
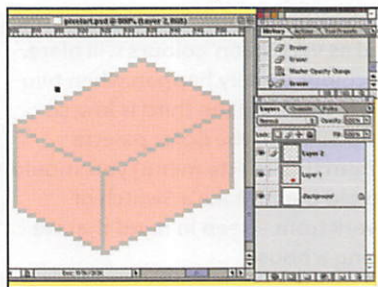
Web pixels

As pixel artwork is basically aimed for web distribution, there is a huge network of artists, web sites, tutorials and communities out there. Just typing "pixel art" into google.com returned 37,100 pages! Try "pixel art tutorials" to find plenty of people more than happy to share their tips and skills with you. Some of the best? www.habbhotel.com, www.protokid.com, www.eboy.com.



Understanding scale

When drawing any object, always consider the scale of it in comparison to the surroundings – a skyscraper is much taller than a tree, a car is smaller than a garage. You could even go as far as to assume that one pixel represents a particular measurement. People should be around one pixel wide and five high – it all depends on the scale you're working to, but this applies for our tutorial image.



5 Choose the Paint Bucket tool and set the foreground colour to a brick colour. In the Options, set Tolerance to 1, un-tick Anti-Aliased and tick Contiguous. Then click inside the outline to colour the shape. Next it's time to add the roof – and drawing an angled roof can prove to be a bit tricky.

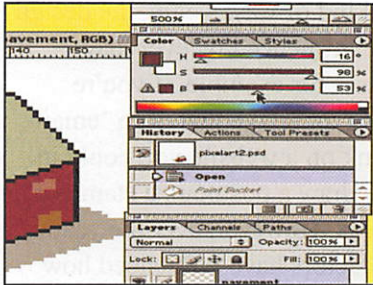
6 Reduce the opacity of your house and create a new layer. Find a point halfway along the near, short edge, and move up until you find a starting point. Draw from this point towards the top corners of the house but as these aren't isometrically horizontal or vertical you will need to 'make up' a new line. One rule: always move the mouse up or across a pixel or diagonally but NEVER draw in an L-shape.

7 Connect up the rest of the roof and fill with colour. The roof may need slight adjusting. Select the Move Tool and use arrow keys to move pixel-by-pixel until it looks right in the 100% canvas as well as your 'editing' one. Once it's in position, Layer > Merge Down the roof on to the house and 'fill in' the near, short wall up to the roof. Add some details on the front wall – a door and a window maybe?

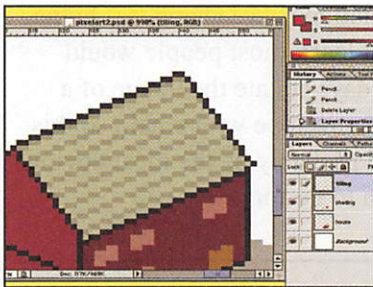
8 Finally add some extra elements. In a layer below the house, create a tarmac-coloured isometric rectangle for the house to sit on. Then in a new layer above the house, draw in a garage that is smaller than the house in all dimensions and attaches to the near end. Remember you can use the Lasso to select, then copy-and-paste areas where they repeat, such as lines, edges, walls and corners.

Isometric pixel art – shading

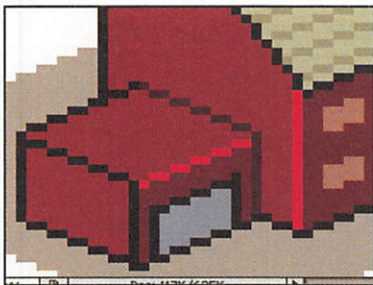
In the last tutorial, we drew a simple house – now let's add shading and more fine details



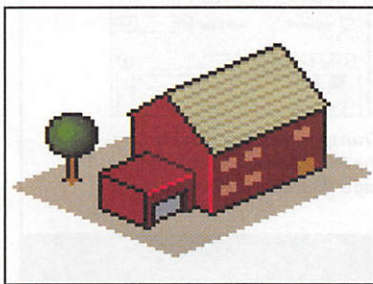
1 Open pixelart.psd – this picks up from the end of the last tutorial. Click on Window > Documents > New Window so you edit one at 600% and view the other at 100%. First we need to shade one side of our objects. Select the red you used to colour the house and then set the Color palette menu to HSB Sliders. By sliding the bottom B (Brightness) slider down, make the colour a little darker.



2 Select the Paintbucket and set Tolerance to 1%. Also un-tick Anti-aliased, tick Contiguous and tick All Layers. Then create a new layer and select it. Click the Paintbucket on the right side (front) of the house – it chooses the area from the house layer and paints it into the new 'shading' layer. In the roof, draw a 'horizontal' line of darker grey and then copy and paste to form parallel 'tiling'.



3 If you did lots of cutting and pasting, Layer > Merge Down the layers so you form a 'tiling' layer. Let's move on. We call 3D edges that stick out 'mountain edges' and those folding in are 'valley edges'. As a rule, mountain edges are much lighter than the object's main colour and valley edges are darker. Pick darker and lighter reds based on the brick red and paint the edges accordingly.



4 Indent the garage door by changing the bottom edge to the 'pavement' grey, the right vertical edge to dark red and pulling the black outline in one pixel. Now for the tree. Using the Elliptical Marquee, hold [Shift] and draw a circle. In a new layer, do Edit > Fill > Black, then Select > Modify > Contract and set 1 pixel. Hit delete and you have an outline. Fill in with a green and add shading and a trunk.



Break it down

You'll find a pixelart2.psd in the Tutorial section on your cover CD. This shows each step of this tutorial in a new layer so you can follow our progress throughout. Turn each layer on and off to see how even the slightest changes can affect the picture. You'll also find other examples of pixel artwork found on the web – enjoy them and be inspired!



Light and shade

We have discussed various rules of lighting but they might not always apply. First of all, decide where your light is coming from. Then you can establish which side of an object will need to be dark (hidden from the light). Spherical objects such as the tree shown here will involve different 'steps' of shading. To paint the shadow of the house on to the pavement, create the 'footprint' of the house in a layer beneath the house, then reposition as necessary.

Drawing icons

If you ever find yourself designing a website or creating symbols of any kind, use the Pencil



Symbol books

There are plenty of design books dedicated to the study and recording of symbols: *How to Design Logos, Symbols and Icons* by Gregory Thomas and Earl Powell (How Design Books – ISBN: 1581804563) and *1000 Symbols: What Shapes Mean in Art and Myth* by Rowena Shepherd and Rupert Shepherd (Thames & Hudson – ISBN: 0500283516) are just two of those available.

Over the last few pages we've seen how the Pencil tool can be used to create pixel art. It's a tricky business indeed, especially given that we're trying to illustrate a particular shape or object that should be recognisable, but using the least amount of pixels. You'll have seen how useful it is to be able to view your file in the 100% window as well as the one you're currently editing in (see page 65).

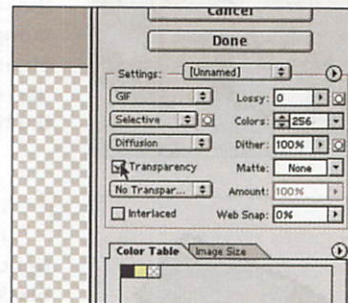
If you're designing some kind of symbol or icon, it should be recognisable or at least readable in

some kind of way. Again, the design can be influenced by everyday objects – for example, if you're creating an image that is an 'email me' link on a website you could in theory draw a postman, a stamp or a letterbox. However, over the years, other factors have influenced how we interpret these symbols and our expectations have changed. On the web at least, most people would these days equate the image of a sealed envelope with email, so this would probably be the most obvious design to go for.

CREATING WEB ICONS

Keep a few things in mind when creating icons

If you'll be using these icons in the web, it's a good idea to be aware of the context. How big can they be? What's the background colour? If they're going on a light background, try a dark colour outline and vice versa. Another tip – make sure you create each icon on a new layer in your Photoshop file. Then turn off the background layer so the icon appears to be floating on transparency. Do File > Save for Web and set the Settings to GIF. Click the Transparency box and you'll see the 'white' background replaced by 100% transparency in the Color Table. If you now put this GIF on a web page, it will float on whatever background you've made.

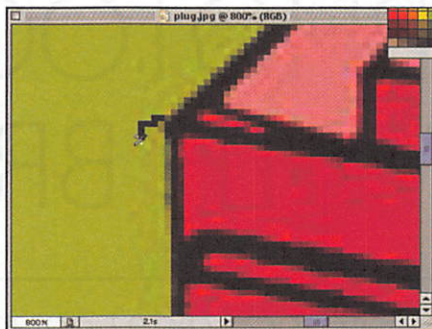


Tick the Transparency box if exporting GIFs via the File > Save for Web window so the image 'floats' on the background

Pixel tweaking

Hey, what's that annoying little object lurking in your image? It's a runaway pixel – kill it!

We've all been there. You're happily working on a piece of artwork and you think you spot something out of the corner of your eye. So you zoom in and there it is – a random hair on your photo or a mark mistakenly made in Photoshop. Just because you're using a digital tool, it doesn't mean it can't be just as messy as 'real' art equipment – these things will always crop up. However, if they're small enough you shouldn't attack them with a great big hefty brush – try the Pencil tool instead. If you're nervous



Rogue pixels like the black ones at this corner can be easily fixed using the Eyedropper and Pencil tool – just select a colour and draw

about the change then make your Pencil alterations in a new layer and merge the layer down later.



More photos later

We'll be looking at photo manipulation and editing in later chapters of this book, but for now, consider that the Pencil will often be very useful for fixing minor things like red-eye in your subjects, light glares reflecting off objects, hair on the lens and sun spots.

PIXEL PUSHING

- ❑ **FIND THE** problem area using the Zoom tool. Remember, clicking zooms in, [Alt]-clicking (PC) or [Option]-clicking (Mac) zooms back out. If you have another tool selected, you can access the zoom via [Space Bar]+[Ctrl] (PC) or [Space Bar]+[Command] (Mac) – again, hold [Alt] as well to zoom out.
- ❑ **PICK THE** correct colour from pixels surrounding the faulty ones by [Alt]-clicking with the Pencil tool. Use the HSB Slider in the Color palette to tweak the colour if necessary.
- ❑ **DRAW ON** the pixels that need fixing using this new colour. You may need to pick new colours to help new pixels blend into the background.
- ❑ **NAVIGATE** to other areas of the image that may need fixing using the Navigator palette. The red square denotes the area you've zoomed in to but you can drag this around the image for quick scrolling.



Watch yourself

The best tip for fixing stray pixels? Don't put them there in the first place! If you're doing lots of close-up work, using multiple layers and also using the Auto Erase setting on your Pencil, you'll need to watch what you're doing or there will be a few messy splatterings of pixels along the way. Of course if you find it quicker to forge ahead and then pick up the pieces later on, that's fine.

Chapter 8

CORRECTING PHOTOGRAPHY WITH BRUSHES

In this chapter...

- ☐ See how Photoshop compares with a traditional darkroom
- ☐ Use the Dodge, Burn and Sponge tools to 'tweak' your photos
- ☐ Learn about using layers and their blending modes creatively
- ☐ Apply advanced brushing tools such as the new Healing Brush
- ☐ Create compositions and surreal montages using the all-new Clone Stamp

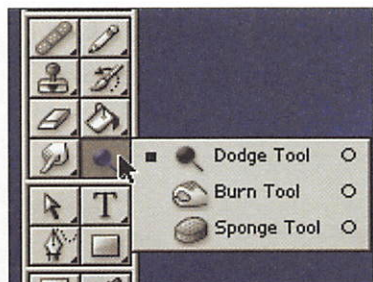
Photoshop didn't get its name for nothing, but so far we haven't even looked at a photograph! This chapter explores how we can use brush tools to correct and improve photos

When Thomas and John Knoll first developed Photoshop in 1990, the intention was to provide a new way of working with photographs. This was based on Thomas' love for darkroom photography, so they had a real feel of what they were aiming for. Nowadays, people use Photoshop for all kinds of work, but it is still most typically used to correct photographic images, so it makes sense to bring our brush skills 'back to basics'.

Chemical vs digital

In the darkroom, as we know, the image is created by shining light through the negative on to photo-

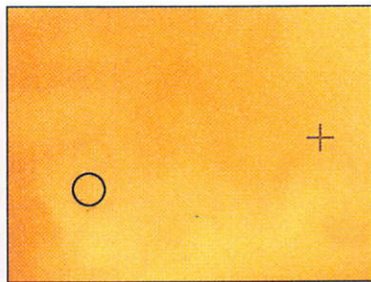
sensitive paper. Then the chemical process colours the paper where light has hit it and colours it less where the negative has blocked the light. Contrast (the range from dark to light shades) is controlled by placing different 'graded' papers between the negative and photo-paper. To achieve similar results in Photoshop we can apply a Contrast Adjustment layer to the image or, even better, use an Overlay Brush, which will allow us to choose specific areas that may need more contrast. Another darkroom process involves using cardboard cut-outs (dodging) and frames (burning) to stop parts of the negative shining



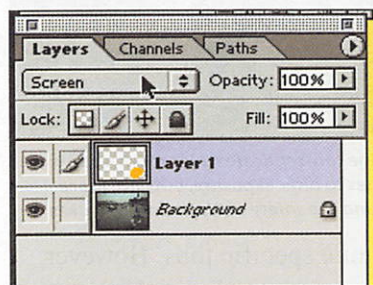
Page 72 There are plenty of brush-type tools that can be used for editing photos



Page 73 The Dodge and Burn tools are used to lighten and darken specific areas



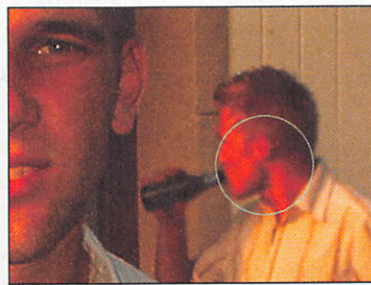
Page 75 Patch up glitches in your images with the new custom-built tools



Page 76 What's the difference between painting on to an image and using layers?



Page 78 Find out how to tackle common problems with your photographs



Page 79 Highlight subjects and create 'depth of field' with Sharpen and Blur

through on to the photo-paper. We can also replicate this in Photoshop, again by using Layers or the custom-built Dodge and Burn tools.

In with the new

In comparing these techniques we can already see how Photoshop has one up on the traditional methods. Once you've applied light to photo-sensitive paper, the only way to correct a mistake is by starting again. As you don't see the effects of your changes until the paper has gone through the chemicals, it usually takes a few tries until you're successful. In Photoshop life is made far easier – we can simply hit

Undo or use the History palette to step backwards through the process.

Throughout this chapter we'll also look at many other tools and brush variations that are simply impossible in the darkroom, especially as many of them, such as the Healing Brush, seem to apply a kind of artificial intelligence. The Blur, Smudge, Sharpen and Eraser group of tools are fine examples of brush-type tools that allow for simple and effective control of your photos. We will explore all of these various brush tools and methods throughout this chapter, showing how your photographs can be improved beyond your expectations.

Brushing tools for photos



Digital is not best

Don't be tricked into thinking Photoshop can replace the chemical darkroom – it is simply a different approach to photography. To start with, unless you have access to very powerful digital equipment, the print quality you get from a negative will always outshine a digital image. More importantly, with traditional photography the processing of images is as much a part of the art as the shoot itself.

There are a number of brushing tools that can be used on photos – we'll take a look at them

So far we have looked at the Brush and Pencil tools and we've discovered various ways of setting up brush presets. The same brush presets can be applied to various 'photographic' tools as well. So we can burn more exposure into an image using a spray paint-type brush or smudge using a hard-edged, square preset. Of course, it doesn't stand that you will need quite so much flexibility as when you were creatively slapping the paint on to an empty canvas, especially as the tools are often used



The Dodge tool replicates dark room dodging techniques to alter exposure, but with more control and the safety of 'Undo-ing' mistakes

to do quite specific jobs. However, it's always good to know that we have the chance to experiment.

PHOTOGRAPHIC BRUSH TOOLS

Healing Brush – This is used to blend the texture from a sample area on to a target area, whilst still retaining the target's colouring and luminosity (light and dark) values.

Clone Stamp – This works much like the Healing brush but allows you to copy and paste areas using a unique brushing technique.

Blur/Sharpen/Smudge – Three tools offering very malleable controls for effects that really can't be found in the chemical darkroom at all.

Healing Brush Tool J
Patch Tool J

Clone Stamp Tool S
Pattern Stamp Tool S

Blur Tool R
Sharpen Tool R
Smudge Tool R



History Brush Tool Y
Art History Brush Y

Eraser Tool E
Background Eraser Tool E
Magic Eraser Tool E

Dodge Tool O
Burn Tool O
Sponge Tool O

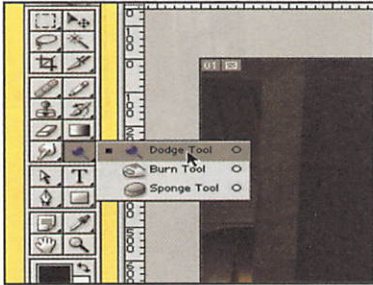
History Brush – Allows us to take steps backwards throughout our process by painting out parts of the altered photograph.

Eraser – These Eraser tools do so much more than just 'rubbing' out, allowing you to specify particular unwanted areas of a picture.

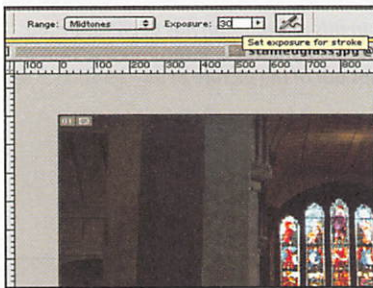
Dodge/Burn/Sponge – These are useful exposure and saturation controls, which can be applied to specific areas using the 'painting' method.

Dodge and Burn tools

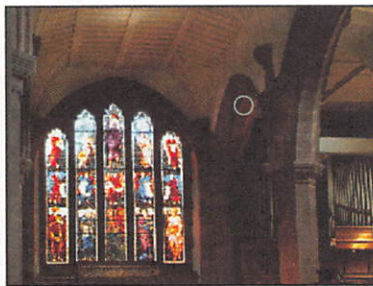
Exposure is a common problem with photos – Dodge and Burn enable us to correct this



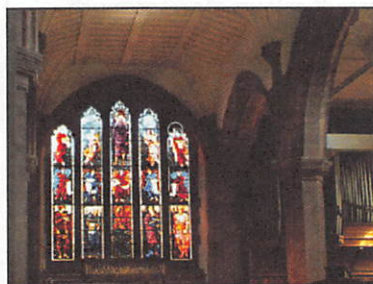
1 Open stainedglass.jpg from your CD. The window in this picture is admittedly the focal point, but it would be nice to pick out some surrounding detail from the shadows. First, duplicate the Background layer and select the new layer to work with. Then pick the Dodge tool from the toolbar and select a 60 pixel, soft, round brush from the Brush Preset picker in the Options.



2 You will see Dodge options are a little different to Brush options. First of all, we choose whether to lighten Highlights, Midtones or Shadows in the Range field. It's best to make any adjustments to the Midtones first, as this will do the job in most cases. Pick Midtones. It is also a good idea to start with a low Exposure setting. This is a little like the Brush Opacity setting.



3 Now use the tool to paint (dodge) in any dark areas – notably the shadows around the stained glass window. Try to keep the mouse depressed in one long stroke when painting over an area – if you use multiple crossing strokes, the exposure builds up and will be uneven across the photo. In some areas though (around the column for example) we do need to apply extra dodging.



4 Now burn in the window centrepiece slightly darker. Pick the Burn tool (under Dodge in the toolbar) and set it to Shadows with a 50% Exposure. Paint over the windows and you will see the black parts darken. Then burn the midtones with a 25% exposure. So, we have darkened the shadows a lot and the midtones a little but the highlights not at all – this increases the contrast.



Highlights and shadows

Dodging or burning on highlights and shadows should be applied in moderation – basically use it in relation to the make-up of the target area and how it needs to be affected. So, if a sky is a pathetic light blue, you can burn it in with Range set to Highlights. However, even then, highlights and shadows dodging and burning can clumsily bleach out or 'grey over' your images.



Different strokes

Try setting up your brush settings differently, according to how you need to dodge or burn. With the Dodge or Burn tools selected, you can still alter any of the dynamics or behaviours as usual in the Brushes palette. Note that some settings may look a little different but basically do the same thing – in the Other Dynamics panel, we see Exposure Jitter instead of Opacity Jitter, in accordance with what appears on the Options bar.

Sponge tool

The strength of colour in areas of your images can easily be adjusted using the Sponge tool



Black and white

Note that a 100% Desaturate Sponge doesn't immediately draw the colour to 'black and white'. If this is something you're trying to do to the image as a whole, either select Image > Adjustments > Desaturate or add a Hue/Saturation Adjustment Layer to your photo and drop the Master Saturation to 0.

The tutorial on page 73 shows how we can alter the luminosity of objects in your photos, but saturation is another matter entirely. Whereas luminosity describes how light or dark a shade of a colour is (e.g. light red or dark red), saturation is a measure of how much colour is in a shade (e.g. grey red or brilliant, neon red). So if you know that parts of your image looked more colourful when you took the picture, reach for the Sponge tool to strengthen the colour – 'saturating'. You can also set the same tool to sponge out the



The car in this photograph has been saturated, whilst the background is desaturated so that the car jumps out of the picture at us

colour, drawing it nearer to the 'grey' equivalent. This process is referred to as 'desaturating'.



Be creative

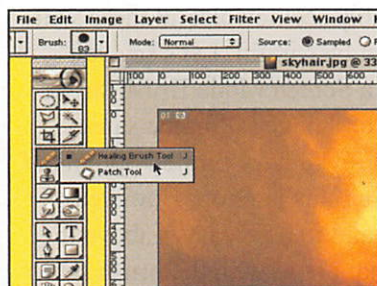
Although we usually use the Sponge to correct saturation or slightly tweak colours to subtly lead the viewer, you can also exaggerate these changes for differing effects. Pushing colours around can lead to some very interesting results, often transforming a dull picture into a startling, creative piece. If you've seen the Stephen Spielberg film *Schindler's List*, you may remember the girl in the red coat in the otherwise black and white film – now wasn't that powerful?

SPONGE TOOL OPTIONS

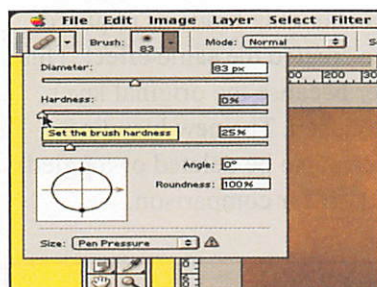
- ☐ **BRUSH** can be set up as you like, using any preset type from the full range of libraries, but we'd suggest a soft-edged brush for general sponging and a hard-edged one for applying to particular objects.
- ☐ **SATURATE** colours by setting Mode to Saturate. Great for touching up fading paintwork on cars, creating richer sunsets, deeply coloured eyes or generally drawing attention to colourful areas of your photos.
- ☐ **DESATURATE** by setting Mode to Desaturate. If colours glow too much, looking too neon, use the Desaturate setting to draw them back, closer to their greyscale equivalent. Typically, skin tones, bright clothing or overpoweringly bright colours will need this kind of treatment.
- ☐ **FLOW** sets how strong the effect is, whether you are desaturating or saturating. As with the Dodge and Burn tools try a low setting first and paint repeatedly as necessary.

Healing Brush

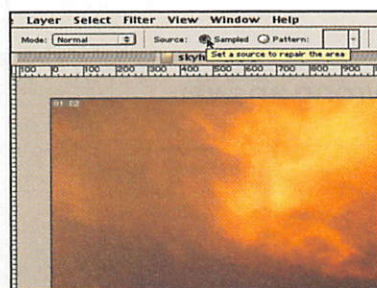
A new addition in Photoshop 7, the Healing Brush is great for fixing blemishes in photos



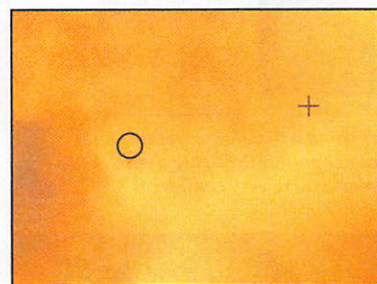
1 Open skyhair.jpg from your CD. At the top of the image you should see where a hair or piece of dust has interfered – this kind of thing often occurs if the lens is dirty or if you scan it in with the image from a hard copy print. Select the Healing Brush tool – this blends a texture from one area on to a target, whilst retaining the target's brightness and colour values. Now look at the Options.



2 Unlike other brush tools, you can't use Brush Presets or the Brushes palette to set up the tool – all the controls you need are found in the Brush picker on the Options bar. We are used to setting Diameter, Hardness and Spacing (keep set to the default, 25%). We can also reshape the brush but unless the job really requires it, don't concern yourself with the Angle and Roundness.



3 The Mode sets how the tool acts and you can make your own guesses looking at others in the list – we need to use the tool to heal though, so pick Normal. Set Source to Sampled so that we can specify a texture 'sampled' from the image to be applied over the hair. Alternatively, you can choose other patterns, which you can blend in over your target area.



4 On the canvas, [Alt]-click (PC) or [Option]-click (Mac) on a sample area. This should be a texture representative of the background behind your blemish – the hair lies on top of the cloud, so pick any cloud area. Then 'heal' by painting with the brush over the hair – you will need to finish the stroke and then wait for the blend to render. See how the 'sampling' icon follows the stroke.



Aligned tick-box

Did you spot the Aligned tick-box in the Options bar? Try healing with or without this ticked, making sure you sample new points each time. With each test, heal with one stroke, then draw again and notice the difference. With the box ticked, the sampling point starts where it finished at the end of the last stroke. Un-ticked, it always starts sampling from the same original sample point.



Patch

Healing can also be done using the Patch Tool, found 'under' the Healing Brush in the toolbar. With Destination ticked, you select a sample area in the same way you'd use the Lasso tool, then grab it by clicking in the middle, drag and drop it over your target. With Source ticked, you select the damaged target area first (which is probably easier in most cases) and drop it over a texture to sample that into the target.

Painting versus layers

There are two ways of using the Brush tool to correct photos – which should you use?



Opacity and Fill

Each Layer has an Opacity and Fill setting. At first glance they have the same effect, changing the transparency of the layer to show what's beneath. However, when and if you start applying effects to layers, you'll notice the difference. Opacity changes the transparency value of everything in the layer, Fill just alters user-created pixels, not those generated by the effect.

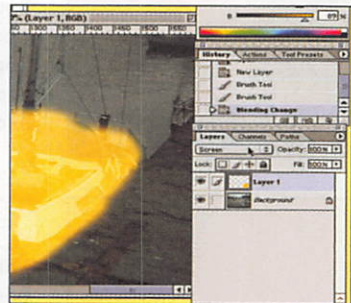
So far we've used brush-type tools such as the Healing Brush, Dodge, Burn and Sponge to correct photography, but the Brush tool itself can also be applied in useful ways. You may remember much earlier on in this book we looked at the Blending Modes – a setting in the Options bar that allows the brush to be painted on so that it affects pixels underneath in a variety of ways. Pop back to page 22 to re-familiarise yourself with some of their behaviours. Now that we're working with photography you can

probably see how useful these will be, but be careful. Let's say you paint a Screen Mode Brush stroke on to an image (all in the same layer) – you have limited options of undoing this later on. However, if you paint in a new layer above the original photo with the brush set to Normal mode and then change the layer's Blending mode as required, you've created the same effect. This is safer because the original layer isn't touched. The new blending layer can also be deleted or toggled on and off for comparison.

WHICH IS RIGHT?

As you probably guessed, there is no right or wrong answer

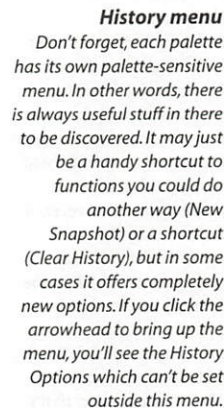
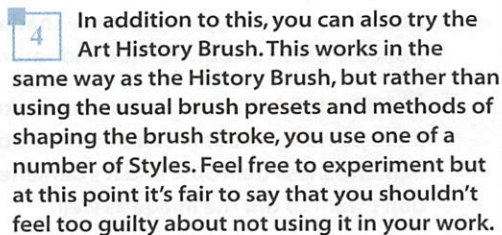
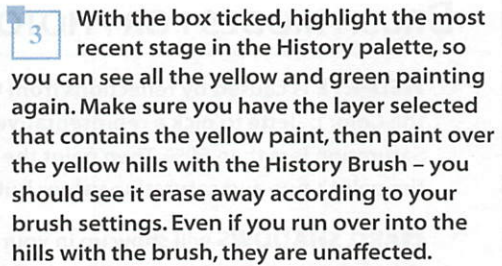
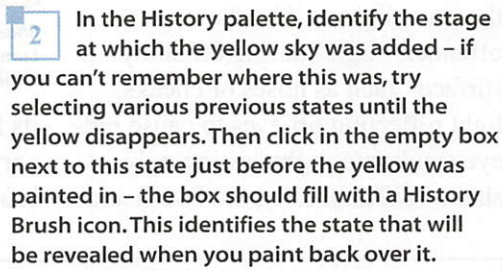
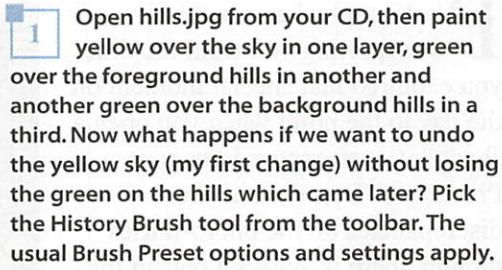
There are pros and cons to each of the two methods we've discussed. Painting directly onto an image is quicker, as you don't need to generate new layers. However, you need to be pretty confident that you're making exactly the right move with the brush. Is it set to the best blending mode for the job? Have you got the right Brush, Opacity and Flow settings? Of course, if you use a blending layer instead, you needn't worry about this. The blending mode can be switched easily, which is great if you're still learning about how those different types perform. At the end of the day, it's all a question of confidence.



So you're using a blending layer to make your changes? Probably a wise move unless you're very confident!

ny Brush

Need to restore pixels after making changes?
The History Brush lets you do just that



Correcting common problems

Certain problems will crop up on a regular basis, so it's worth being ready to tackle them



Correction books

There are a wealth of Photoshop books out there, but many of them deal exclusively with photo correction and improvements. Your best bet is to visit www.amazon.co.uk and type Photoshop along with other possible title keywords such as photography, photographer and correction in the search field. Most large book shops have a decent selection of Photoshop books too.

Photography has a habit of transporting you from the time you captured that special moment on the day to the point when you open a shadowy, over-exposed image in Photoshop. Don't blame these discrepancies on the photo-fairies though, there is always a reason for these problems occurring. Most of the time, light will be the main offender – light glaring off shiny surfaces such as noses or cheeks, light reflecting off eyes to cause red-eye syndrome, light casting ugly shadows. Thankfully, the Brush and



Shadows can be rubbed out using the Luminosity Mode on the Brush – the brush's luminosity value blends over the shadow

its Mode settings can be used to correct this, even if other corrective brush-type tools we've seen can't.



Your aims

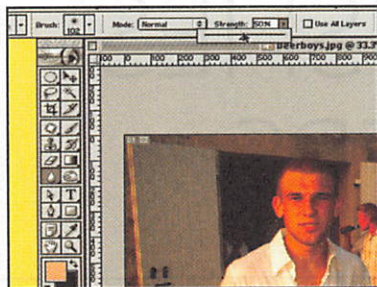
Be clear what you're trying to achieve before you start 'correcting' a photo. If you remember exactly how the scene looked when taking the photo and would like to recreate this, then that's simple enough. However, in the same way that your camera 'interprets' the scene, your mind will do the same – you may decide to alter the lighting or colouring altogether. This is fine, especially if you're not after an end product that's meant to fool viewers into thinking it's 'real'.

BRUSH MODES FOR PHOTO CORRECTION

- ☐ **RED-EYE** is caused by reflections from the flash. Use the HSB Slider in the Color palette to pick a representative Hue (blue, brown) and a Saturation less than 50%. Then paint the eye with a Color Brush, blending the paint's hue and saturation values but retaining the eye's luminosity.
- ☐ **HARD SHADOWS** will show up in your image as darker shades of a colour – for example a brown table in shadow appears dark brown. Use the Eyedropper tool to select the desired shade on the canvas. Then with a Luminosity Brush, paint over the shadow – the brightness is applied from the brush colour, but hue and saturation are unaffected.
- ☐ **DARK AND LIGHT** areas can be tweaked with the Soft Light mode. If the painting colour is more than 50% brightness the photograph is lightened, less than 50% and it's darkened. Use with 0% saturation if you don't want to tint the image as well.

Sharpen and Blur

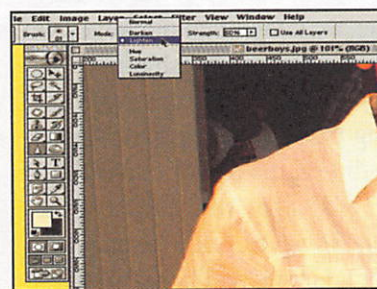
The Sharpen and Blur tools can be used to pull forward and push back objects



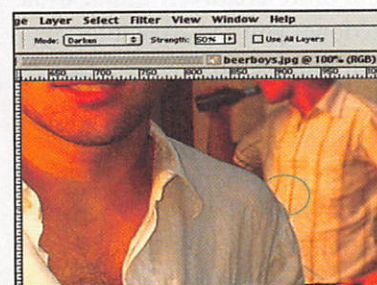
1 Open beerboys.jpg. You'll see that the main character is already jumping out of the picture, but we can exaggerate this with Sharpen and Blur. Select the Blur tool, which is found on the toolbar, grouped with Sharpen and Smudge. Choose a large, soft-edged brush (around 100 pixels) and set Strength to 50% to start with, so we don't end up blurring the image too much.



2 The idea now is to paint over any areas which lead the eye away from the central figure. Most obviously this is the other figure on the right, but also look out for 'sharp' shapes such as the door and its vertical lines, the wall lamp and the flagstones. The tool decreases contrast between adjacent pixels, therefore softening edges – a blurring effect.



3 Now to pull the central figure forward. First, use the Eyedropper to sample a new foreground colour from the white shirt on the figure's left arm. Pick the Sharpen tool and again, set it up with a soft-edged brush. Set the Strength to 50%. Finally, set Mode as Lighten – this means the tool will only sharpen pixels lighter than the foreground colour.



4 Paint with the Sharpen tool around the edge of the left arm – you should see the shirt sharpen but not the darker door. To sharpen the right arm, pick a new light colour from the other character's shirt and set Mode to Darken – this will only sharpen pixels darker than the foreground colour. Finally, sharpen with Normal Mode all over the character's features and other defining edges.



Build-up

Note that unlike others, this tool does 'build up' the strength of the effect in the same stroke – try painting round and round in circles during one stroke and you'll see this. So, to make sure you don't accidentally over-sharpen or over-blur keep the Strength setting low and try to remember where you've already passed over in the image – if you're using the tool correctly, to affect edges, this shouldn't be too hard.



Smudge tool

The Smudge tool is applied in the same way as Sharpen and Blur (and is grouped with them on the toolbar) but the effect is different. Firstly, the Mode setting works differently – e.g. Normal smudges all colours, Darken pushes darker colours into lighter ones and Lighten does the opposite.

Also, if you tick Finger Painting, the smudge starts with the foreground colour – otherwise, it just uses the colour under the cursor at the start of the stroke.

Chapter 9

GET CREATIVE WITH BRUSHES AND LAYERS

In this chapter...

- ☐ Draw realistic tattoos on your subjects
- ☐ Use the Clone Stamp to brush in new objects
- ☐ Learn more advanced Eraser techniques
- ☐ Quickly fill and cover areas using the Paint bucket

Photo editing isn't always about correcting light sources or getting rid of red-eye – we can also have a lot of fun using Photoshop's brush tools to create more unusual artwork

This chapter shows you how to put your boss's head on a photo of a donkey. Only joking! We will in fact be trying to steer clear of some of the tackier uses people find for Photoshop – it really can be an insult to the application. Having said this, some of the projects in the next few pages lend themselves to this kind of jape as well more 'professional' work, so I'll leave it to you to decide which way you want to go!

Impossible! Unreal!

Photography is often described as 'painting with light' – it is seen as one of the most pure forms of capturing an object, scene or even

reflecting an ambience. In the last chapter we concerned ourselves with using Photoshop's brush tools and effects to help record this reality, making the photo look just like the scene did on the day or correcting it so it looks 'right' in the eyes of the viewer. However, once we step over the boundary of reality and start thinking more creatively about what can be done, you can have a lot of fun with Photoshop.

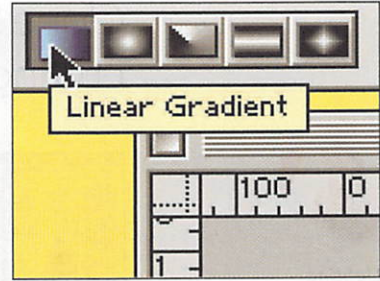
There are plenty of new tricks involving brushes on photographs that we haven't tried yet. However, we can only cover so much in these pages, so it will be up to you to take what you learn here and apply the



Page 82 The Clone Stamp can be used to paint in objects from other photos



Page 83 Erasers can intelligently select which pixels to remove from your images



Page 84 The Paint Bucket and Gradient tools are great for quick colouring



Page 85 Adjustment Layers can be combined with brushing for stylish effects



Page 86 Straight-laced boys become terrifying bikers with added tattoos



Page 87 Rather more drastic 'surgery' can be carried out using brush tools

idea at least, if not the exact same methods, to future projects. For example, we will find out how to paint a tattoo on someone's arm, but what about other skin blemishes and disfigurements – cuts, scratches, implants or weeping sores anyone? And if you're sticking an extra head on someone, what other things could you feasibly get away with? It's a question of pushing the limit to the point of ridicule – and then maybe a little further.

Forever advancing

We will also be taking a look at some more advanced versions of the tools and techniques that we covered

in earlier chapters of this book. As they usually apply to the more 'creative' end of Photoshop work, they slot rather neatly into this section. We've seen the Eraser before for instance, but the Magic Eraser and Background Eraser take the concept a little further, allowing for some 'intelligent' help with Photoshop selection methods. Masks were also encountered when we looked into shading techniques, but in this chapter we'll be learning how they can be edited in combination with layer techniques. It's time to let your imagination run wild, so get those creative juices pumping and we'll continue.

Clone Stamp – cut and paint

Clone Stamp allows for greater sensitivity when cutting and pasting elements into a photo



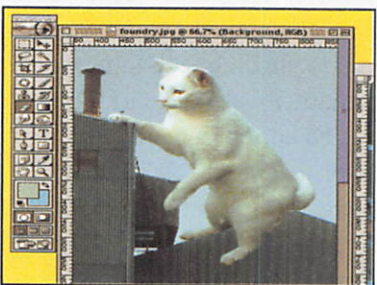
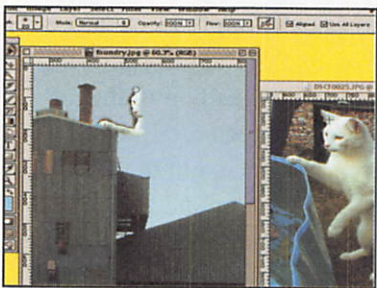
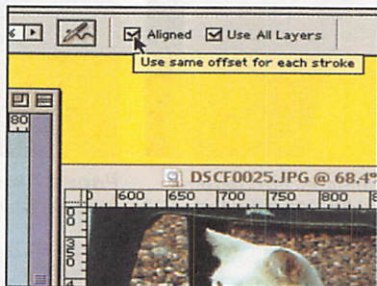
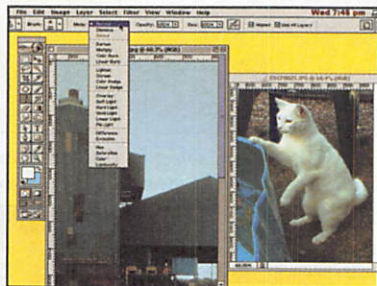
Lighting

Even if you follow the tutorial on this page exactly, you'll notice the cat still doesn't look quite in place – and I don't just mean because it's too large! No, we're talking lighting here. The foundry picture doesn't seem to be lit from any particular direction. However, the cat is clearly lit from the top, with shadows under the legs and body. Consider which brush mode you'd use to paint over the cat to correct the lighting.



Cloning to remove items

As well as using Clone Stamp to add new elements to an image, you can also use it to remove unwanted objects. If your object is on a large enough expanse of 'surface', you can sample from that surface and paint over the object, for example a book on a desk, a mark on a wall, a mole on a face. Also keep in mind that you can sample within an image, or from one photo to another.



1 Open cat.jpg and foundry.jpg from your CD. Set up the canvasses so they sit next to each other. In foundry.jpg, create a new Layer. Then select the Clone Stamp tool from the toolbar. Set the brush to a soft-edged brush, around 20 pixels. This is a straight 'cut-and-paint', so set Mode to Normal.

2 Opacity and Flow we also know about – set both to 100% as we're not blending in the new object but placing it on top. You can keep All Layers ticked or un-ticked, it doesn't apply here but for future reference, this allows you to 'sample' from all layers as if they were flattened, rather than pixels in your currently selected layer. Tick Aligned so the sampling point stays relative to the painting point.

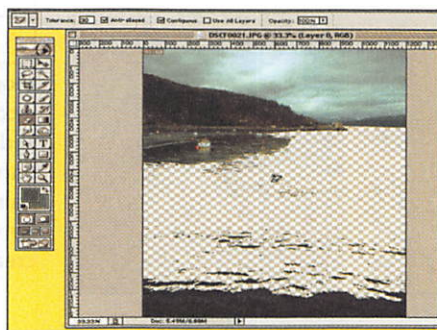
3 Now to clone our cat! Select the canvas with the cat, and find a point that will be the first painting point to land in the foundry image – your best bet is probably the left paw. [Alt]-click (PC) or [Option]-click (Mac) once on the paw and then select the foundry canvas. Select the new, empty layer and start painting (cloning) on to the tall roof near the chimney and carefully trace the outline of the cat.

4 Pick a larger brush and go back to the foundry image to fill in the rest of the cat. Notice that because the Clone Stamp is Aligned, the tool always starts sampling from the right place when you continue your work. Otherwise each new cloning stroke will start sampling from the original sample point until you [Alt/Option]-click yourself another one. Finally, erase any untidy background areas.

Advanced Erasers

If you're after a helping hand with your erasing, try the Background and Magic Erasers

We've already encountered the Eraser, but what about the two variations grouped with it in the toolbar? Well first of all, the Background Eraser is particularly useful if you only need to erase specific pixels from your photographs. If you're looking to erase a particular block of solid colour such as a background sky or wall (hence the name) then the tool removes all the colours within your Tolerance (range) setting. This is all done with a brushing motion, but if that doesn't impress you, the Magic



You can use the Magic Eraser to instantly delete whole blocks of a similar colour, such as the water in this photograph

Eraser certainly will – one click is all it takes to instantly delete whole blocks of similar colour.



Background Brush

Notice that the Options bar brush settings for the Background Brush are limited. In reality, you don't need too much versatility with this tool's shape, so that's why we're only given Diameter, Hardness, Spacing, Roundness and Angle controls (isn't that enough?). If you've used the Healing Brush before, you'll have noticed it uses the same brush controls.

BACKGROUND AND MAGIC ERASER OPTIONS

Limits – Discontiguous erases all pixels within the Tolerance range; Contiguous only erases adjacent selected pixels; Find Edges saves high-contrast edges.

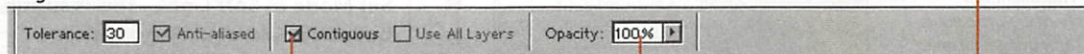
Tolerance – Sets the range of the selected colours which will be erased, based on the sampled colour as a reference point.

Sampling – Continuous samples throughout your stroke. Once samples once at the start of the stroke. Background Swatch erases pixels matching the background colour.

Background Eraser



Magic Eraser



Contiguous – Untick Contiguous for the tool to erase all pixels in the tolerance range, regardless of whether they are touching each other.

Opacity – If you don't want to entirely erase the pixels, this allows you to set a transparency level for the affected areas.

Protect Foreground Colour – Stops that colour being erased. [Alt]-click to pick a new colour whilst erasing.

Paint Bucket and Gradient tools

The Paint Bucket and Gradient tools go hand-in-hand with other brush tools



Quick paint

Before this tutorial you might have taken a different approach to painting in a block of colour. First you would have selected your area using the Magic Wand or maybe one of the Lasso tools, then used a Brush or just done Edit > Fill to fill the selected area. Although Magic Wand uses exactly the same method to select an area of like pixels, the Paint Brush is still quicker – it only involves one click!



Other modes for gradients

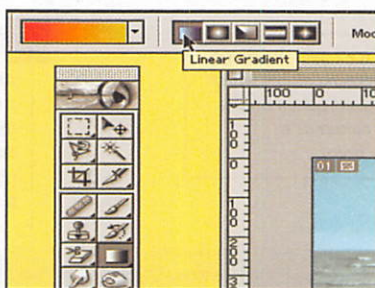
Consider using other modes to paint with, especially noting the last few from the list, which apply some parameters but not others to your pictures. Hue applies the hue values of colours only; Saturation just applies the saturation; Luminosity applies the brightness values from the two colours used. So, by using high and low values in your Foreground and Background Colour parameters, you can gradually darken, desaturate or re-colour an image with a gradient.



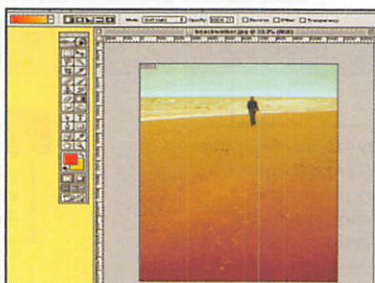
- 1 Open beachwalker.jpg from your CD. The sky is a little grey here, so let's add more colour. Use the Eyedropper tool to select a colour from the sky, and then use the HSB slider in the Colors palette to increase the Saturation, making a richer blue. Select the Paint Bucket tool. In the Options, set Fill to Foreground and Mode to Normal. So we don't create one big flat blue sky, set Opacity to 20%.



- 2 Set Tolerance to 35 – this should safely select and paint over all the sky shades without affecting the beach, woman or sea. Keep Anti-aliased ticked to create a soft edge in the painting and also tick Contiguous so only adjacent pixels are painted. Then click the tool once near the top of the sky – you should find that just the sky is lightly painted with your blue, allowing detail to show through.



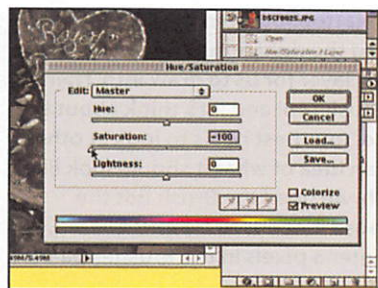
- 3 Now let's add some surreal, warm lighting with the Gradient tool. Pick two colours: a deep, very saturated orange as the foreground colour and an equally saturated yellow as Background. Then pick the Gradient tool, under the Paint Bucket on the toolbar. In Options, make sure you have Foreground to Background selected from the picker. Select Linear Gradient from the five gradient types.



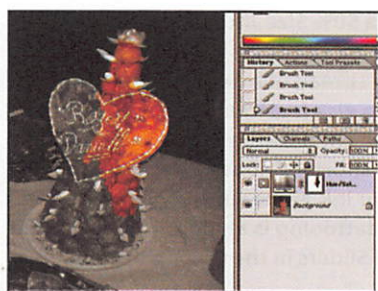
- 4 Set Mode to Soft Light – this is subtle, but you could equally go with something much more powerful and dramatic such as Color Burn. Set Opacity to 100% and leave the other boxes un-ticked. To draw the gradient, click and drag a line from the bottom of the image to the top – this denotes the direction of the gradient. On releasing you'll see it painted in over the image.

Working with layers

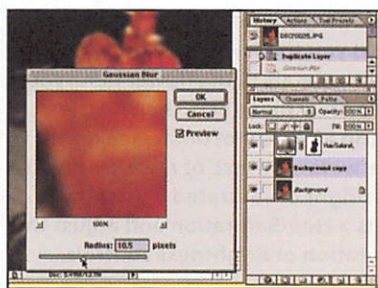
Brush tools combined with a creative use of layers can create some powerful effects



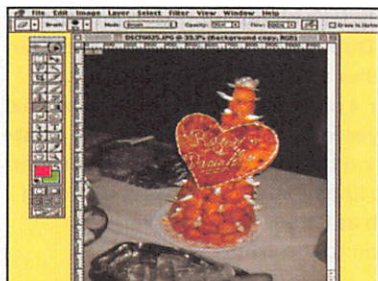
1 Open cake.jpg from the CD. At the bottom of the Layers palette, you'll see a row of buttons – click on the fourth from the left to 'create a new adjustment layer' and pick Hue/Saturation from the list. These are layers which can be used to make alterations to your image without being permanent. In the pop-up, drag the Saturation slider to 0 and hit OK – the image turns to 'black and white'.



2 In the adjustment layer notice the thumbnail – at the moment it's all white, meaning all the image is 100% affected. We can lessen or block this out using a brush. Pick a soft-edged brush and in the Color palette, select to use Grayscale Slider. Pick 100% black. Then, making sure the adjustment layer is selected, paint over the cake and it returns to normal, unaffected by the adjustment.



3 Now select the Background layer again, and Layer > Duplicate Layer so it sits in the middle of the stack. Then do Filter > Blur > Gaussian Blur and set it to around 10 pixels – you will see it previewed in the pop-up but also in your image. Hit OK. Now set the layer's blending mode to Screen and the image is lightened with a soft-focus effect.



4 Finally, to draw attention to the heart in the middle, let's remove some of that blurred layer. Choose the Eraser tool, select Brush from the Mode setting and use a hard-edged brush. Set Opacity to 70% so the 'knock-out' isn't too strong and then erase the heart area in the blurred layer. In the finished image the eye is drawn from the central subject out, all thanks to Layers and Brushes.



Group layers

You can group layers together very easily – this is useful if you want to only apply an adjustment layer to one layer and not others. Hold down the [Alt] key and hover the mouse in between two layers until you see a linking icon, then click. To ungroup them, do exactly the same. You can turn off a whole group of layers by toggling the bottom layer in a group – turn off layers within groups by toggling them as usual.



Adjustment layers

Adjustment layers basically give us another way of applying the changes in the Image > Adjustments menu.

The difference? Well, applying an adjustment directly to your image is not reversible at a later date, but if you use an adjustment layer you can toggle it on and off to see what difference it makes or even delete it altogether – much safer. Also try mixing different adjustment layers and note how the order of stacking changes the effect.

Fake tattoos

Ever wanted a tattoo but didn't think you could handle the pain? Here's your chance



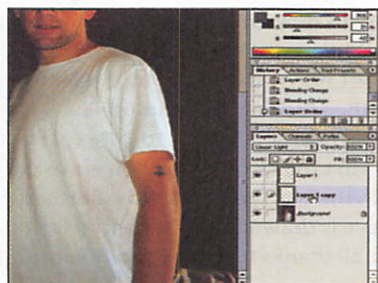
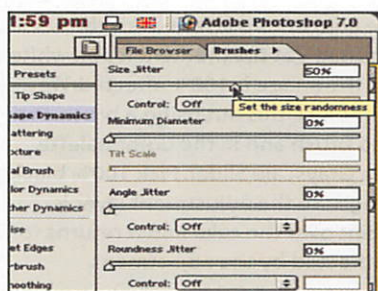
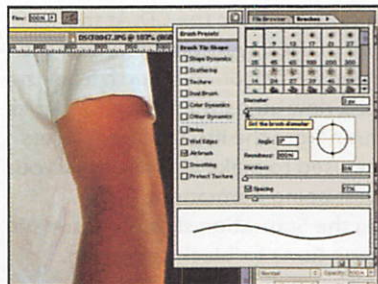
Pin-pricks

As a tattoo needle draws by creating a row of finely-spaced pin-pricks, you might like to try and emulate this more precisely. In the Brush palette, adjust the Spacing so each mark is slightly separated from the next. Set a very fine Diameter (the width of a needle). Set a low-ish Hardness to make slightly blurred pricks to show where the paint goes in and spreads.



Research

If you're looking for a particular image or an example of something then you can use a simple search engine. Many now give you the option of searching for pictures, as opposed to web pages. On www.google.com, hit the Images tab on the front page, then type in keywords which will give successful results, e.g. tattoo. On www.ask.co.uk, tick the Pictures box under the search field.



1 Open *tattoo.jpg* from the CD. Zoom in around the right arm – our blank canvas. Create a new layer for us to draw into. Then select the Brush tool and let's think about the brush shape. Your best bet is to look at other tattoos for an idea of what it should look like. To start with, we need the Brush not the Pencil, because it needs to be Anti-aliased. Make Diameter 3 pixels in the Brushes palette.

2 Add a 50% Size Jitter in the Shape Dynamics controls – this will emulate the uneven spread of a needle. If you'd like to try anything else feel free, but there are other ways we can emulate the tattoo look, which we'll get to shortly. Choose a dark blue, almost black for our ink. Make sure any ink you choose for tattooing is at most 40% Saturated (check HSB Sliders in the Color palette).

3 Now draw your tattoo in the new, empty layer. If you think you'll be drawing filled shapes like the petals of the flower here, you might like to draw these first, then do the outline on top after. Zoom out to see how it looks in the 'wider context' of real size. If you feel it's too bright or saturated do *Image > Adjustments > Hue/Saturation* and adjust the Master Saturation or Brightness controls.

4 Finally, let's blend our tattoo into the arm. Duplicate the tattoo layer and then do *Filter > Blur > Gaussian Blur* and set it to around 3 or 4 pixels. If you turn off the original drawing layer for a moment, you'll see it create a dark blur on the arm, as is often seen around hard tattoo lines. Experiment using Blending Modes such as Linear Light or Overlay to blend this on to the arm.

Creative brushing

Now that we've looked at creating tattoos, what about other kinds of facial surgery?

The key to this kind of work is getting your head around what something would look like if it happened, and how that can be visualised in the image. What qualities will your paint job need to make your fantastical idea jump from your mind on to the photo, without losing credibility? Well, it will need to be believable in one respect, so it needs to blend into the surface you're working on – we're talking textures, lighting, scale and so on. On the other hand, if you try to make it 'realistic' by creating a

mundane, everyday image then no one's going to be interested. Look around you and consider the kind of facial blemishes, markings, implants and tattoos you've seen – now push those ideas a stage further. Maybe in reality the human body wouldn't be able to endure all that work being done to it, but in Photoshop we can make all sorts of assumptions, just as long as they're well applied. A final tip: think of the idea first, then see if it can be created in Photoshop – don't ever assume you can't create it until you've tried.



Skin deep

We can take inspiration from all sorts of places for this kind of work. In *Star Trek* there are all sorts of facial anomalies – think of a Vulcan's ears or a Klingon's forehead (I'm guessing they never heard of Botox). In real life too, people are going one step further than simple tattoos – you can now have tiny shaped implants placed under the skin to raise and alter the surface of the skin. Surely it's less painful to do that in Photoshop.

PHOTOSHOP FACELIFTS

Using just two tools we can completely web over facial features

First open up an image of a face, select a soft-edged brush and paint over the eyes. We want the skin to look sunken over the eye sockets, so you'll need darker colours for indents and lighter ones for bumps. Whilst painting you can [Alt]-click (PC) or [Option]-click (Mac) to sample skin tones from the image itself. Then use the Healing tool to apply skin texture (un-tick Aligned in the Options). [Alt/Option]-click again on a patch of textured forehead or cheek, then paint short strokes to blend in the sampled texture whilst retaining the colouring and lighting beneath. It may take a few passes to get the right texture in the right places.



Now then, where did I leave those eyes? Ah yes, now I remember, someone brushed them away!

Chapter 10

PUTTING YOUR WORKS OF ART ON SHOW

In this chapter...

- ☐ Professionally print your images using *Print for Preview*
- ☐ Learn how to direct your saved images for the web by keeping file sizes down
- ☐ Animate your images using *Image Ready*, Photoshop's bundled sister application
- ☐ Make simple web sites to display your work using Photoshop's *Automate* function

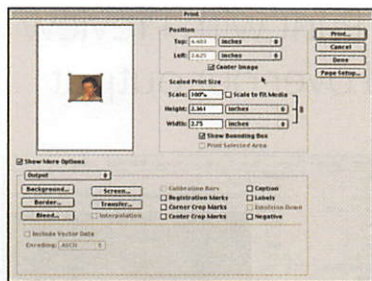
So now you know all about creating artwork and photo-edits using Photoshop's vast array of tools. Now it's time to show off your work, whether that's on paper or a computer screen

It would be an understatement to say we've spent a lot of time exploring Photoshop's brushes. Hopefully you've been putting this book down occasionally and trying out some of the techniques we've demonstrated, to give yourself an idea of how they can be used in your work. So having put in so much time and effort, wouldn't it be nice to be able to share the results with other people? In this chapter we'll show you how to do just that.

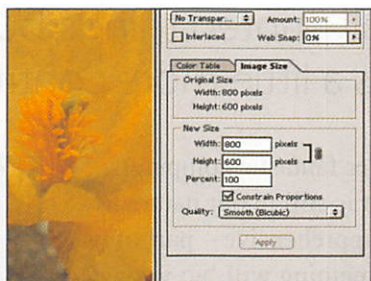
Another book

It really would be beyond the remit of this book to cover all the different aspects of Photoshop outputting,

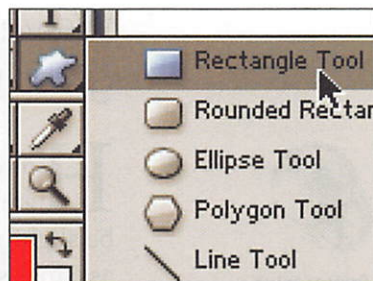
exporting, printing and distribution, so we won't even attempt to do so. What we can do, however, is cover the basic elements which you will come into contact with on an everyday basis. You're probably used to printing off documents, so we'll be taking this process a little further than the usual standard *Print* window – the *Print with Preview* command allows us to centre, frame and mark up the image on the page. We'll also be looking at how to prepare your artwork for consumption over the internet – whether you simply want to optimise your images so that the files are of a small size without sacrificing any



Page 90 Show your images in their best light using the Print with Preview window



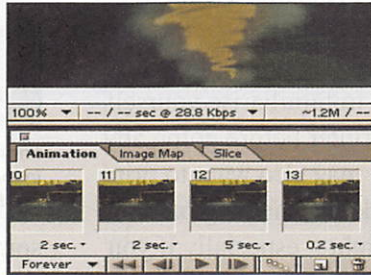
Page 91 If you want small files that still retain quality, you'll need to Save for Web



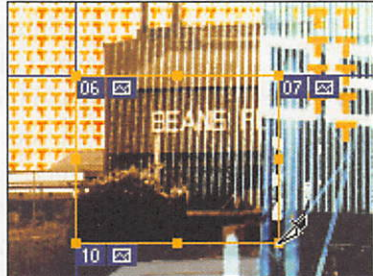
Page 92 There are two types of graphic – vectors and pixels; what do they mean?



Page 94 Photoshop allows us to quickly create websites to show off our images



Page 95 Turn your static images into simple animated movies in Image Ready



Page 96 If your image is too large to download in one go, chop it up...

detail or whether you want create an 'automated' web site from a folder full of pictures.

Further afield

There are plenty of ways of pushing our work forwards, but as with any discovery of uncharted territories like this we will come into contact with new characters. Flash, QuarkXPress, Dreamweaver and Illustrator are applications you may not be familiar with, but the chances are you will need be at some point. Even if you don't plan to use them yourself, what happens if someone asks for your artwork in a particular file format or resolution? It's

nothing to be scared of, just a case of approaching it carefully. We'll even make a simple animation using Photoshop's bundled Image Ready application, just to give you a taste of what lies ahead.

This is the end

Not strictly true of course. Distributing your work means that people get to see it, you get feedback, you're hurt by their comments, you try again, it works a little better and so on. So really, this is just the start – because now you know about the technical end of brushes, you can let the creative part of your brain take over.

Print with Preview

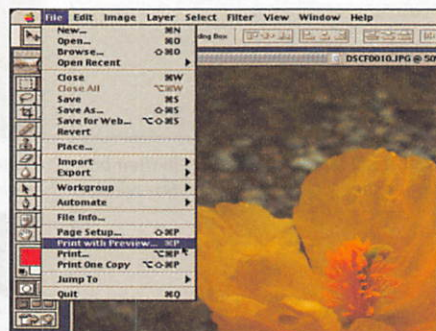


Printer setup

You will of course need a printer to do any printing. Make sure you have it correctly installed on your computer and selected for use. Then back in Photoshop, if you click on **File > Page Setup** you should be shown a window which is part of your printer's software, as opposed to Photoshop's. This will typically allow you to set the paper to use, orientation (landscape or portrait) and other similar settings.

We've all printed things, but **Print with Preview** gives us a little more control over our output

However fantastic computers are, it is still in our nature to be slightly apprehensive – part of us assumes something will ‘go wrong’ and we will lose all our work. As a result, most people have experience of printing files on to paper. If you haven't already done so, it would be a good idea to familiarise yourself with your printer before going any further. You may also want to print your artwork as a viewing medium in its own right – especially if you are showing work to a wider public audience (perhaps in a gallery) or



Photoshop offers a number of printing options in the **File** menu – the most comprehensive set can be found in the **Print with Preview** window

someone without a computer.

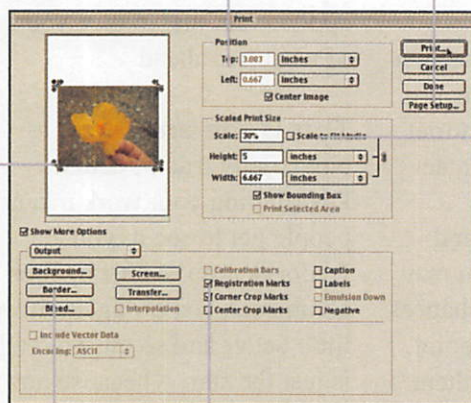
For professional printing options, select **File > Print with Preview**.

PRINT WITH PREVIEW POP-UP

Position the image according to cm, inches or mm, or choose to centre it on the paper.

Add elements to your print-out such as a border around the image, a bleed which will allow you some over-printing to cut across or a different coloured background.

Preview window – This allows you to re-position the image on the paper by simply dragging the preview image.



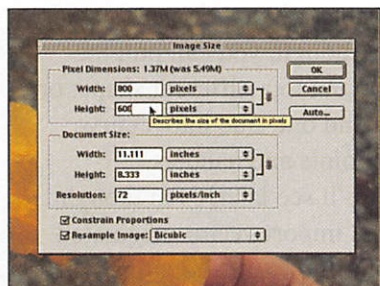
Page Setup – Takes you to a pop-up specific to your printer, so you can set paper sizes, orientation and so on.

Scaled Print Size – Alters the size of the print on the paper. Click **Scale to Fit Media** to resize it to fit the paper.

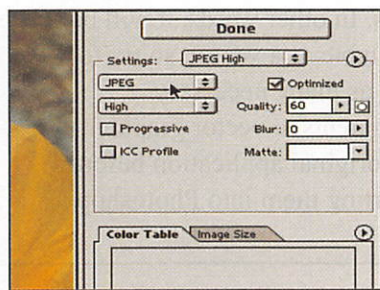
Other added elements such as printed crop marks, Registration marks and captions may also help with the presentation.

Save for Web

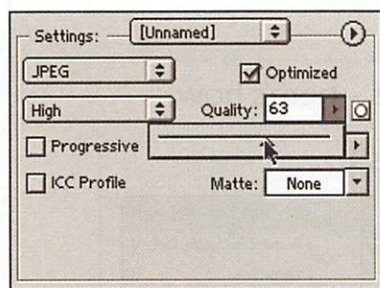
If you want to show an image on the internet, it will help to keep the file size down



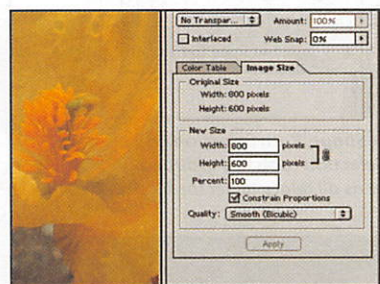
1 Open an image you'd like to display on the web – such as flower.jpg from your CD. First consider the size. Click on Image > Image Size and look at the Pixel Dimensions. If you're just emailing the image, you're best off making height a maximum of 600 or width a maximum of 800, depending on the shape. Smaller dimensions will reduce the file size and make it even quicker to email or display.



2 Hit OK and the image resizes. Now do File > Save for Web. In the main image, click on the 2-UP tab at the top. In the bottom of the left preview, the original image is 1.37MB – far too large. The right-hand pane shows an 'after' state – the bottom may read GIF or JPEG. In the Settings select JPEG: a great file format for photos or images with lots of detail and anti-aliasing.



3 In the Settings, change High to Medium quality and watch the file size in the right window – it goes down. Alternatively, use the Quality slider to set the file size – Blur also does this but reduces quality drastically. In the top-left toolbar, use the Zoom and Hand tools to view different areas of the image, comparing left (original) to right (optimised) according to the quality settings you're using.



4 Notice you can set the Image Size here as we did in step 1. However, if you're making major changes, it usually takes longer to process, which is why we did it beforehand. Feel free to use it for small adjustments i.e. 800 pixels down to 300 pixels. Once you're happy with your settings and have balanced image quality with file size, hit OK and you'll be prompted to name and save your file.



GIFs and JPEGs

These are the two file formats most commonly used to save image files for the web. Saving as a GIF or JPEG from your Photoshop file is like making a web presentation of 'work in progress' – it doesn't affect your Photoshop file. JPEGs are well suited for detailed work such as fine artwork or photos, whereas GIFs often compress files smaller when the image is made up of just a few colours.



Progressive JPEGs

In the JPEG settings you may have noticed the Progressive tick box. If you've ever been on the web and seen an image seeming to download in levels of detail, this is a progressive image. It allows the user to get a rough idea of the content as it downloads the detail in stages. Save as a Progressive file and then put the email on a web page or send it as an attachment and you should see how this works.

Vectors and pixels

Ever heard of vector graphics before but not known what they are? Well listen up



Coloured vectors

Reshaping graphics that started off as vectors isn't easy in Photoshop, but other processes are. We've seen how much control Photoshop offers over colours and shades, so if you've preparing a vector graphic for printing or as a web image, it's not the craziest idea to run it through Photoshop first. Use the Image > Adjustments controls or an adjustment layer to alter the vector.

We have seen how Photoshop uses pixels. Zoom right in to an image and it's clear the image is made up of thousands of coloured squares which can be edited over a wide area (using the Brush) or close up pixel-by-pixel (using the Pencil). However, other art packages such as Freehand, Illustrator and Flash use vectors to create graphics. These are lines or shapes which can be edited once drawn. For example, in Photoshop, once you've drawn a square on the canvas those pixels are 'painted' on and it's basically

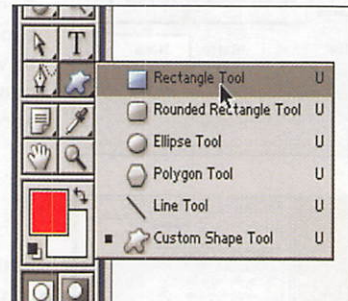
uneditable – if you draw a vector square though, you can pull the corners out to a different shape, or even bend one side into a curve using points and handles.

As we'll see later, even though you can import vector-originated artwork into Photoshop, this will then be converted into the equivalent pixels. In other words, it will be uneditable as a vector, so try to make as many necessary adjustments to vector graphics in their original application before importing them into Photoshop.

VECTORS IN PHOTOSHOP

Actually, it's possible to create you own vectors – here's how

Okay, we lied. You can sort of create vectors in Photoshop. Select a layer – your vector shape appears above this. Then pick a Shape tool (found just below the Type tools). In the left side of the options, you'll see three icons – pick the left one, Shape Layers. Draw your shape on the canvas. Alternatively, use the Pen or Freeform Pen tools to draw adjoining points, creating shapes. Then use the Direct Selection tool to select and drag points around or the Pen tools to add or remove points, re-shaping your vector. Note how the vector is made up in its own layer, a flat colour masked by a Vector Mask, represented by the two thumbnails.

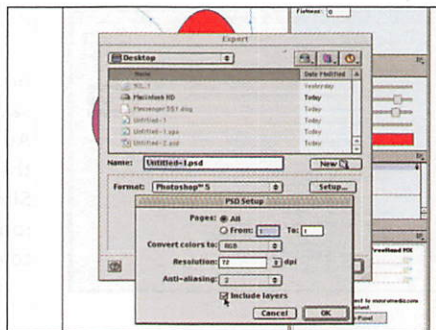


The Pen, Shape, Path Selection and Direct Selection tools are grouped together as all relate to Vector Masks

Working with other applications

Using graphics from other packages is easy in Photoshop – but keep an eye on the file type

Photoshop allows for graphics to be imported from a number of packages. This is good news if you're looking to combine mixed media in your art pieces – maybe there's a frame in your Flash animation you'd like to work with or an illustration made up in Illustrator. Although it might seem sensible to head for File > Import in Photoshop, it's probably not the easiest route. Instead simply try opening the file as usual, regardless of where it originated. If you can't see it listed whilst browsing for it in Photoshop,



Some applications, such as Freehand, will even allow for a Photoshop file to be saved, layers and all! Now isn't that thoughtful of them?

chances are you'll need to make an adjustment in the way you exported it from the other application.



Have patience

It can be a little frustrating trying to find a file that one application will export, whilst allowing Photoshop to import it back again. Sometimes the file seems to export, appears in Photoshop's browser and then turns out to be a distorted, 'snowy' image. This can be a problem at either end of the process, so there are many variables to experiment with.

THE IMPORT/EXPORT BUSINESS

- ☐ **FLASH** is an animation tool, but we can export stills for Photoshop. Select the required animation frame, then File > Export Image. Pick JPEG, making sure you set the correct Resolution, Include > Full Document Size and set Quality as necessary.
- ☐ **QUARKXPRESS** is a desktop publishing package which uses TIF files as they are one of the finest image types, well suited to being printed. If you export a TIF to Quark, you should probably convert the file to CMYK if it's an RGB file (Image > Mode > CMYK Color).
- ☐ **PICT** file types are usually pretty big files and generated by making some kind of recording, e.g. recording a still image from a digital video clip. However, they can still be opened as usual in Photoshop.
- ☐ **FREEHAND MX** actually allows us to save as a Photoshop file and if you dig far enough, there is even a layers setting.



Reasons for Photoshop

Why do we need to put images through Photoshop if they're being created elsewhere? Well, we've already considered that other graphics types can be used in mixed media artwork, but there are some things that Photoshop does better than Freehand, Illustrator or Quark. For example, the Save for Web function is great at optimising images for the web and the list of Image > Adjustments for colour is probably also unrivalled in other applications.

Automatic web galleries

You've collected a series of your artwork images – now to show them off on the web



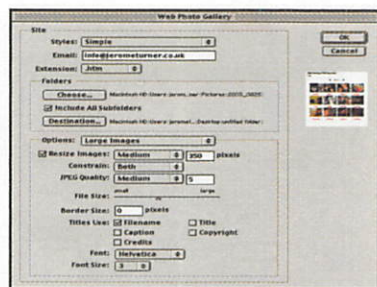
Putting work online

To put your gallery online you will need an FTP (File Transfer Protocol) application such as Fetch, Transmit or CuteFTP. Some web design tools have the same controls built into them. You will also need to set up some web space, which you can get free from www.yahoo.com. Collect the FTP details (Server, Username, Password) and use them in your FTP application, then upload the folder on to your web space.

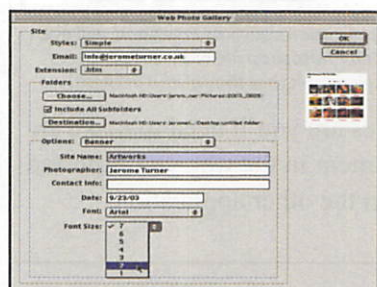


Web galleries

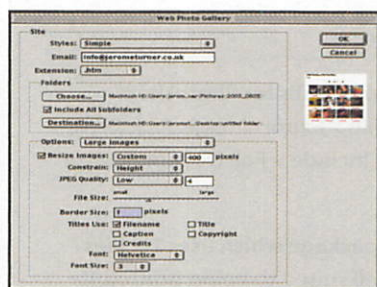
You will find thousands of image galleries online showing off all kinds of work – sketches, 'paintings', pixel art, photography. Whilst Photoshop's Automate Web Photo Gallery method is a little simple, it is at least a neat and easy way to show your work. However, why not try designing your own pages? The internet contains a wealth of information on web design. Start with: www.useit.com; <http://computer.howstuffworks.com/web-page.htm>; or try <http://directory.google.com/Top/Computers/Graphics/Web/Tutorials/>.



1 Start with a folder containing around 20 images – these can be JPEGs, TIFs, GIFs or any other type of image file, they will be saved as JPEGs in the end. Click on File > Automate and choose Web Photo Gallery from the list. First choose a style from the top. Simple is good enough – you can see how it looks in the preview. Type your email address to enable visitors to offer feedback.



2 In the Folders section hit Choose and Browse to find the folder containing all your images. Select the folder and hit Choose. Then pick the Destination folder – if you don't have one yet, browse to the desktop and click New Folder to create one for the finished site and related files to be saved to. In Options set the banner settings for the information appearing at the top of each web page.



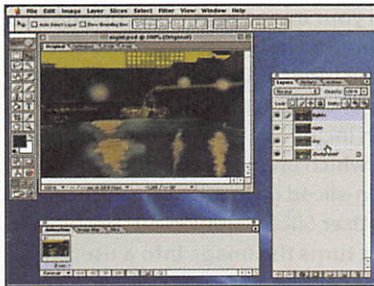
3 Then set the Options for Large Images – these set how each picture will look on each web page. Tick Resize Images and choose Small, Medium, Large or Custom, where you can enter your own figure. If you want to set this figure for a particular dimension, you can Constrain Width or Height. The JPEG Quality and File Size are co-dependent. You can also set a border for your image and add captions.



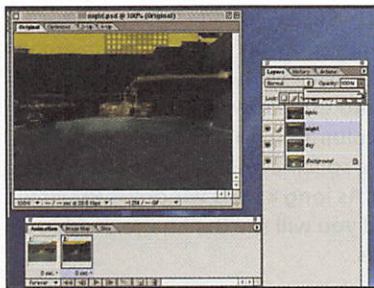
4 Set Options for Thumbnails. Again, set the size and how you would like them to be laid out in columns and rows. Note that if your columns multiplied by your rows is less than the total images in your folder, this will split the site into two sections. Click OK when you've finished and the website will be complete – it will probably automatically open in your main web browser for you to try out.

Animating using Image Ready

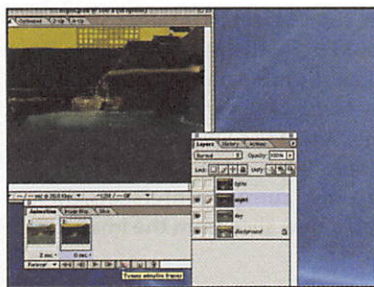
Why not use your artwork to create simple animations for viewing on the web?



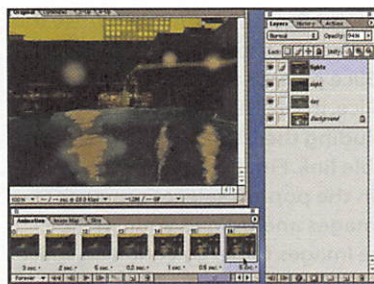
1 Start off with a Photoshop file containing different animation 'states' on each layer – you can use the night.psd, made by drawing in one layer, duplicating the layer, adding new elements and so on. To animate this, we use Image Ready, an application that can be opened by hitting the 'switch-over' button at the bottom of the Photoshop toolbar.



2 In the Layers palette turn off the lights layer, then select the night layer and reduce the Opacity to 0%. Make sure the Animation palette is open. Select the first and only frame in the animation and at the bottom of the palette, hit the Duplicate icon. This makes a new frame, so select it and then in the Layers palette, set the night opacity to 100%, so that it shows on top of day.



3 Now we want to gradually fade from 0% night to 100% night, but first let's set the amount of time between each part of that fade – it will become clearer in a moment. In frame one, click where it says 0 sec, change to 2.0. Then select the second frame again and click the Tween button to animate between the two states. In the pop-up, change 'Frames to Add' to a value of 10, then hit OK.



4 See how frames have been added, each gradually showing more of the night layer and each pausing for 2 seconds. Select the last frame of the animation, change pause time to 5 seconds and then duplicate. In the new frame, turn on lights layer with opacity of 40%. Change the pause time to 1 second. Then create more frames so the lights 'flicker' into action. Finally, select frame 1 and hit play.



Saving and using animations

Once you've made an animation, click on File > Save Optimised. Even though it looks like you're just saving one GIF file, it saves all frames as a sequence that can be played back online or through players such as QuickTime. Keep in mind this file will be bigger than a static image because it's made up of several different graphics.



More animation

You can also change the location of layers in your animation – where we altered the opacity in our tutorial, simply drag the layer with the Move tool, then Tween. To make two layers animate at the same time, first animate one as usual. Then making sure you have the other layer selected for animating, make changes in a 'start' frame and then an 'end' frame. Now select that range of frames by [Shift]-clicking the start and end frames, then hit the Tween button.

Slicing large images

A large image file will download into a web browser faster if it's broken down into 'slices'



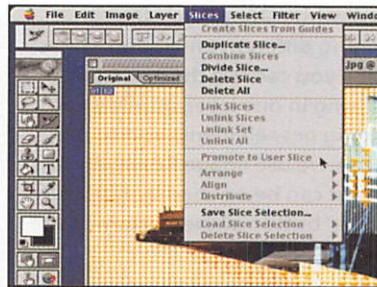
Alt text

If you've ever waited for an image to download into a web page, you may have seen text appearing in the allocated space first. This helps to tell the viewer what the image will contain once it's downloaded, so they know whether to bother waiting for it. We can add this in the Slice palette. Select a Slice and then enter text in the Alt field.

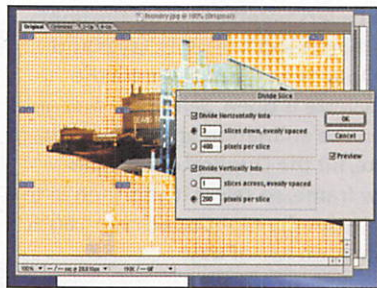


Manual slicing

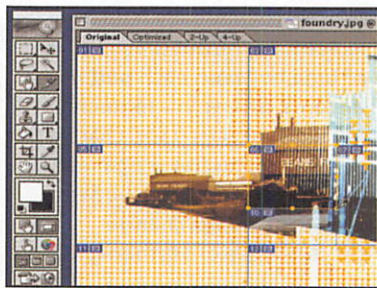
Rather than using the Divide Slices window as shown above, you can of course slice from scratch using the Slice tool. Then re-position by clicking and dragging the slice borders as before. You can also slice in Photoshop as it contains Slice and Slice Selection tools in the toolbar – we chose to use Image Ready as it's more versatile for this kind of work.



1 Open your image in Photoshop and hit the 'Jump to Image Ready' button at the bottom of the toolbar. There are three types of slices – User Slices created by the user; layer-based which includes all pixels in a layer; and Auto Slices, which Image Ready adds to fill otherwise un-sliced gaps. Check that Slices > Promote to User Slice is greyed out or select it if it isn't. This turns the image into a user slice.



2 Now Do Slices > Divide Slice and you'll see a new pop-up. In Divide Horizontally Into, enter 3 in 'slices down' field, so the image will be cut into three rows. We could enter a number of columns in Divide Vertically Into but let's set a specific number of pixels instead – 200 pixels. As long as this window's Preview box is ticked you will see the image divided up in the canvas.



3 Hit OK, then Select > Deselect Slices. We could leave the picture like this but I'd like to add a clickable part section so that if it appears in a web browser, this will link to another page. Select the Slice Tool from the toolbar – it looks like a scalpel. Find a start point where a slice currently intersects, then click and drag a new slice from the image.

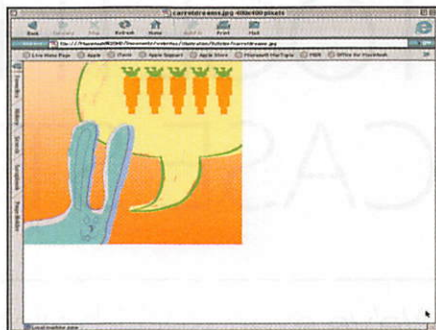


4 If the new slice isn't highlighted, use the Slice Selection tool to select it. Then look in the Slice palette or open it by doing Window > Slice. In the URL field type a web address, including the http:// prefix to make this a clickable link. Finally, do File > Save Optimised. In the pop-up select Format as HTML and Images and upload your HTML page and the Images folder to your web space.

Showing and sharing images

So you've created your masterpiece – now it's time to share it with the world

Even if you've just been creating artwork or photo-edits for your own enjoyment, you'll probably want to show them to your friends – at least if they're any good! If they're not, you could always do with some constructive criticism. On the other hand, your work may have been created for a specific purpose – work for a client, maybe a web banner that should be viewed online – so it's worth being aware of the numerous ways of viewing your images. Keep in mind things like the download time (you can find this in



A file opened in Internet Explorer – note the file name in the URL bar, showing that the file is resident on this computer, not the internet

the bottom of the Save for Web window) and the size of your audience's browser.



Quick view

If you just want to quickly view an image, clicking on it from your desktop may open it in Photoshop, which can take a while. Instead try right-clicking (PC) or [Control] clicking (Mac) the image to see if there is a 'preview' or 'quick view' option to open it in a basic image viewer. In some cases you can even just 'drop' the image over the icon you normally use to open that image viewer.

SHOW AND TELL

- ☐ **EMAIL** can be used to send images. Save your file as a JPEG no larger than 100K. Your target will probably be able to see it in the bottom of their mail and save it to their own computer.
- ☐ **WEB BROWSERS** such as Internet Explorer, Mozilla or Netscape Navigator can be used to view images. Start the application and simply do something along the lines of File > Open File – the image will appear flush to the top-left of the browser.
- ☐ **ONLINE** viewing follows exactly the same principle, although you will have to put the image online first using an FTP program. Online images don't need to be put inside an HTML page – they can be seen in isolation in the browser.
- ☐ **ANIMATED GIFS** can only be viewed using media players like QuickTime Player or Windows Media Player, not image editors.



QuickTime

The QuickTime Viewer (for static images) and QuickTime Player (for animations and movies) are small applications made by Apple. They allow you to simply and quickly view your work and also tie in to using images on the internet – in fact you may find you had them downloaded already. Make a Shortcut (PC) or Alias (Mac) of the QuickTime applications and keep them on your desktop.

Chapter 11

PUTTING IT ALL TOGETHER – A CASE STUDY

In this chapter...

- ☐ *Develop your creative ideas*
- ☐ *Blend photos together to create a panorama*
- ☐ *Create patterns and custom brushes*
- ☐ *Put your digital masterpieces online*

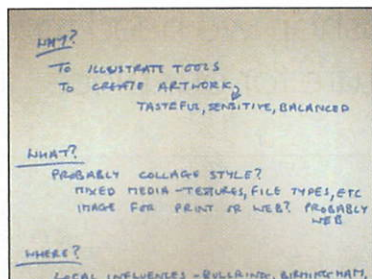
We've exercised Photoshop's brush tools in all kinds of directions, so now let's pull all that experience together in one artwork combining our new-found knowledge

Upon first picking up this book, I'm guessing you were wondering just how much there could possibly be to say about brushes and Photoshop artwork – surely not enough to fill an entire book? Well, hopefully the ground we've covered since then will have convinced you otherwise. In the first few chapters of the book we looked at the various brush settings and options, before putting all of that knowledge to some practical uses later on. This final chapter doesn't cover any specifically new ground – so there's no need to worry that you're going to be overwhelmed with even more information – but

we will be discovering some new ways to approach and stretch the areas we've already covered.

A little bit of everything

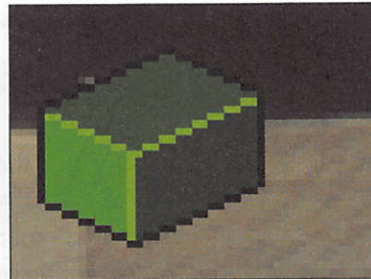
Our case study starts by looking at how the initial ideas were worked through and developed into graphic structures on paper. Then, in Photoshop, we consolidate these ideas with some structural layers, maybe even using the original paper sketches in scanned form. Other sources such as photos and video stills are pulled into the mix. Of course, the intention is to see how many brushing methods and styles we can use in the piece, so there will



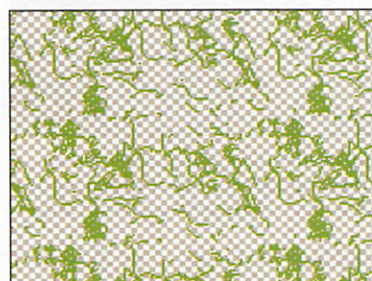
Page 101 See how the original idea evolved using a variety of techniques



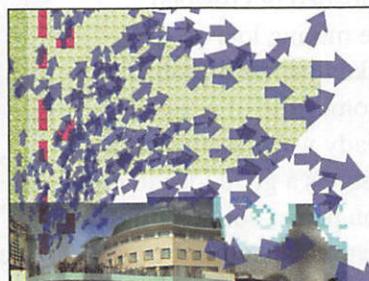
Page 104 Photos are blended together to form the backbone of the piece



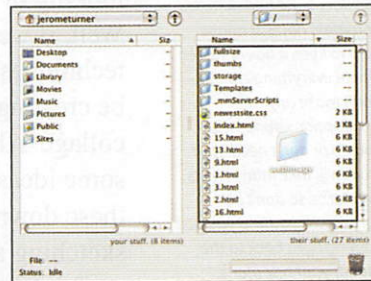
Page 108 Pixel art is added to contrast against the photographic media



Page 111 Patterns are created, then incorporated into the composition



Page 113 A scattering brush is used to quickly add whole graphic creation



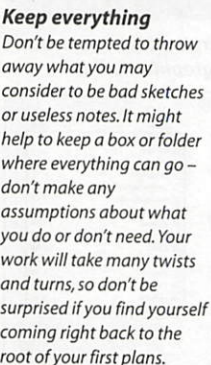
Page 121 Once it's been prepared in slices, the image is put online

be a lot of tracing involved, as well as freehand drawing and colouring from scratch. Once we're finished, it's a case of finding the best way of presenting the artwork. Other chapters contained pages you could dip in and out of, but to follow the progress here you're best off working with us from start to finish. Use our case study images on the CD to work from – or use your own creations.

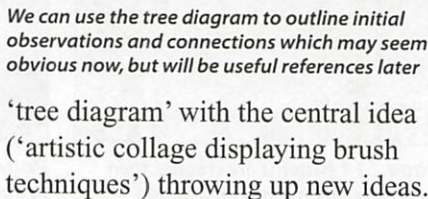
Loads of brush work

The piece we're creating in this case study will rely heavily on brushing methods to illustrate what we've already worked through, but don't assume you have to work quite so

much into your own pieces. Indeed there are many Photoshop users out there who very rarely touch the brushes – not because they don't know how to use them, it just might not be necessary for the kind of work they do with the application. So, despite the fact we have seen dozens of different uses for brush tools, remember each method has its own place within a balanced Photoshop practice. As we've hinted throughout this book, the best results will come from knowing how to use brushes alongside layers, filters, colour adjustment techniques, masks and the plethora of Photoshop functions available to you. Have fun!



Don't be tempted to throw away what you may consider to be bad sketches or useless notes. It might help to keep a box or folder where everything can go – don't make any assumptions about what you do or don't need. Your work will take many twists and turns, so don't be surprised if you find yourself coming right back to the root of your first plans.



‘tree diagram’ with the central idea
(‘artistic collage displaying brush
techniques’) throwing up new ideas.



When films are scripted and planned, one method of brainstorming is to use a storyboard. This involves drawing consecutive panels describing shots in very simple, sketched form and applies well to film, as a rectangle can describe the frame of a camera shot. Look for ways of working that are suited to you and your medium. Even though Photoshop isn't a time-based medium (unless you're creating an animated GIF), don't feel you shouldn't try storyboards if it can help.

Out and about – being inspired

Look all around you for inspiration – it can come from the unlikeliest of places

Even though we've started off by making some helpful notes and pushing ideas around on paper, we're still desk-bound. But there is a whole world of people, places, nature and architecture out there waiting to inspire you! Allow new ideas to occur, whilst being careful that flashes of inspiration don't obliterate your initial plans. This needn't necessarily be a process you try and force – once you start thinking creatively you'll notice patterns in paving slabs or buildings, or even bubble formations in the

washing up. When it's particularly striking, the image will stay sharp in your mind, ready for later interpretation in Photoshop. Of course, it could be that you make a specific point of 'being inspired' – leave the house and don't return until you've filled a notebook with sketches or your digital camera's memory card with photos. Whatever your approach, remember there is a world of stuff out there and it's the same world that inspired all the great artists and designers – you just need to take a long hard look at it.



Spare time

Use your spare time to collate ideas. Sometimes a ten-minute train ride into work can provide enough time to think through ideas, whilst also being inspired by the new environment and people around you. Many people like to commute on public transport for this reason alone – that it allows them to switch off because they don't find themselves having to concentrate on anything else.

CASE STUDY – INSPIRATION

Collecting imagery is one of the first steps

Take a camera with you everywhere you go and you'll soon find that it fills up with compositions that strike you as interesting. A camera is still one of the easiest ways of recording a scene or event and, with the advent of digital technologies, we can snap away without worrying about printing costs. I had my camera with me in the centre of Birmingham and realised that the architecture of the city, including the ultra-modern Bullring development would work well the mish-mash of styles and brush methods I had in mind for my image. So, I snapped away, taking a series of images that would hopefully join together in a collage.



The new Bullring shopping complex in Birmingham is rich with inspiring architecture and wide open spaces

Creating a simple structure

Having consolidated your ideas, you should be able to create a simple structural layout



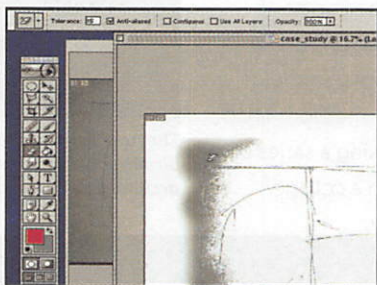
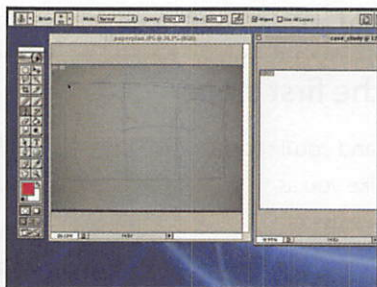
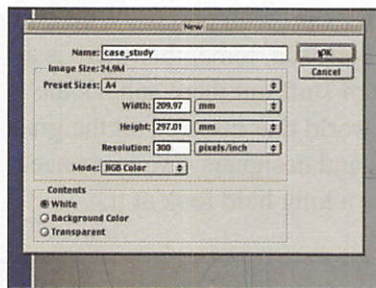
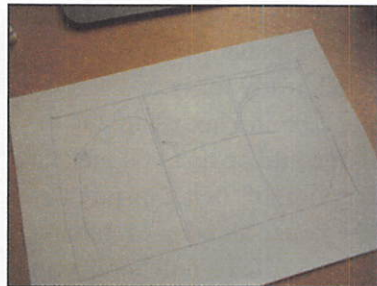
Losing quality

By transforming and then removing parts with the Magic Eraser, the sketch does of course lose quality. However, as it's just a rough guide and we're not going to be using this as part of the final image it doesn't matter. As long as we can see the pen-drawn lines, that's all we're after here.



Layer positions

Throughout the development of this image, you will find yourself turning this sketch layer on and off to see how your progress is coming along without this guide. As it gets buried under piles of layers though, you will still want to see it, so you might even consider putting it at the top of the stack so you always have it there as a visual guide.



1 As we're still working from sketches at this stage, let's sketch a layout on a sheet of A4. My plans have been influenced by the Bullring photographs – I'd like to make use of them as the basis for a panoramic piece. Start by drawing a letterbox rectangle on a sheet of paper divided into thirds – a layout favoured by many designers. Roughly sketch the shape of the main subject within this.

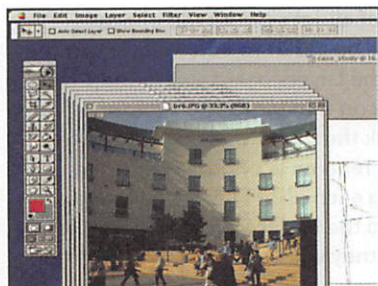
2 Now scan the image and open it in Photoshop or take an illustrative photo using a digital camera and download it to the application (or use paperplan.jpg from the CD). This second option might seem odd, but as we're only after the rough shape, it could be a quicker option. With this sketch file open, create a new 300dpi A4 RGB file. Then click on Image > Rotate Canvas > 90 CW.

3 We can now use the Clone Stamp to paint in the basic structure from the sketch. In the main file, create a new layer called Sketch and then line up the two canvasses. Select the sketch file and choose the Clone Stamp tool. Set it up with a large, soft brush and make sure Aligned is ticked. [Alt]-click (PC) or [Option]-click (Mac) on the extreme left point.

4 Go to the main file and make sure the empty Sketch layer is selected to paint into. Start cloning the sketch from left to right, pasting the structure into your canvas. You will see the sketch size is smaller than your canvas so Edit > Transform to stretch it. Finally select the Magic Eraser with Tolerance set to 15 and Contiguous un-ticked. Click on some of the background grey to erase what we don't need.

Creating a photo joiner

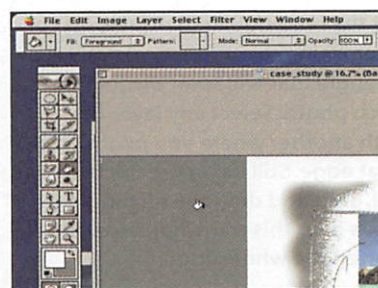
Now let's import the photos we took and see how they can be imported into the piece



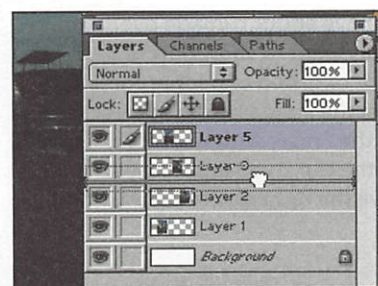
1 You can now close the sketch file but keep your main file open. Then open any of your original photos which you think could be positioned together to create a panoramic image – you can use our source images br1.jpg to br6.jpg from your CD. Each one will open in a new canvas, but we can change this.



2 Line up the main canvas next to the images, then go to br1.jpg. Using the Move Tool, simply click and drag the photo to copy it from one canvas, releasing it in your main case study file. Do the same with the next two photos – you will see each one is pasted into a new layer in your main file. The problem, however, is that they won't all fit, so click on Image > Canvas Size.



3 In this pop-up we can make the canvas larger without affecting the contents. Enter a figure that's at least double the current width of the canvas – this will give us plenty of room to play with. Then hit OK. If the added sections aren't the same colour as the rest of the canvas, go to the background layer and use the Paint Bucket tool to correct this. Then add the rest of the photos to the main image.



4 Now select each layer in turn and, using the Move tool, position the images so they join together in a panorama. Don't worry if they look a bit 'montaged' and don't join perfectly for the moment. Also remember you can change the stack of the photos if this will help the image – in the Layers palette, just drag the layer to a new position. We can also now close the original photo canvasses.



Opening multiple files

If you need to open several image files at a time in Photoshop, here's a quick way. In the browser window where you normally select which file to open from the list, hold down the [Shift] key and click to highlight one image file, then the next, and so on. Then hit OK.



Selecting layers

Sometimes you can see an image on the screen that you know you want to edit, but aren't sure about which layer it's on – this will definitely happen once we start building up a lot of layers. If you right-click (PC) or [Control]-click (Mac) on any part of the image, a pop-up menu appears showing which layers lie under the mouse, but also enabling you to select the layer you're trying to edit. Then simply edit as usual – much quicker.

Blending your photos

With the photos laid out, you'll probably want to blend them together a little more subtly



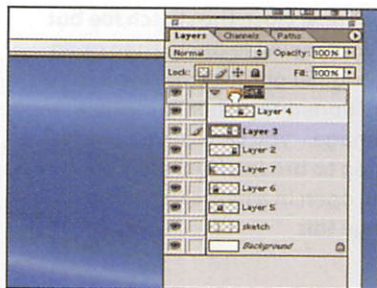
Feathering

We have used feathering within our selection here as it creates a soft edge – even if you erase all the way up to the edge of the selection area, this will ensure you don't make any nasty hard edges in the blend. Any time you're using a selection tool, look for feathering options and decide if you will need them – if you make a selection and want to add a feather afterwards, simply click on **Select > Feather**.

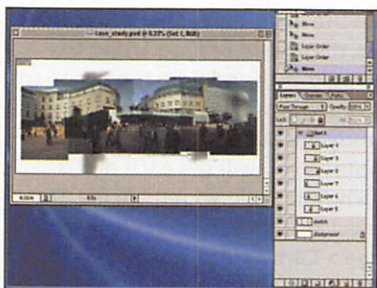


Mix it up

Don't feel you have to soften and perfectly blend each overlapping picture – in my version I've allowed some objects to show through by erasing, some overlaps have been softened and others have been left as they are – straight, hard lines that show the same object but coloured or lit slightly differently from one image to the next. This makes for a varied collage technique.



- 1 First of all, let's group the photos – they'll be easier to edit that way. At the bottom of the Layers palette, click the 'Create a New Set' icon that looks like a folder. Double-click the folder that appears in the palette and rename it 'photojoiner'. Then, one by one, drag each photo layer upwards and drop it on to the folder icon to add the photos to the set – they will be shown slightly inset.



- 2 Once all the photo layers are grouped in this set, you might need to reshuffle their stacking order. However, now also note that you can edit the panorama as a whole by selecting the photojoiner layer as if all the grouped images have been merged down as whole. Use the Move tool to reposition the group in the centre of the image.



- 3 Select the rectangular marquee, set to Feather 30 in the options and draw a vertical rectangle that will span the join between each photo. Select any layer that overlaps with another where you might want to soften that edge. Still using the Rectangular Marquee tool, grab and drag the rectangle shape so it sits over this transition. Now hit Delete to soften the whole edge.



- 4 If you have enough image overlapping you may want to show part of a building, floor or group of people coming through from the image below. In this case, you can use the Eraser with a soft brush to rub out parts of the top, overlapping layer – make sure you have the right one selected though!

Balancing the lighting

We can use a Soft Light layer to balance the lighting from one image to the next

There is a certain method to taking 'joiner' sets of photos successfully. Start by standing in a position facing what will be the central image of your montage, so that you can rotate freely on your hips (or use a tripod of course!). Now, looking through the viewfinder the whole time, take the first photo starting from the left, rotate right slightly so there's a small overlap, take another photo and so on until you've got in enough panorama – or broken your back, whichever comes first! This is the

most you can do to make sure your pictures will blend well, but as you can see, the join is rarely seamless. Firstly, as the camera rotates, the light source (in this case the sun) will hit it from a different angle and with differing intensity. In addition to this, it's worth keeping in mind how cameras work. As most light is aimed at the centre of the image, pictures are occasionally darker (less exposed) around the edges. Therefore making 'joiners' can be a little tricky, as it's the edges we're most concerned with.



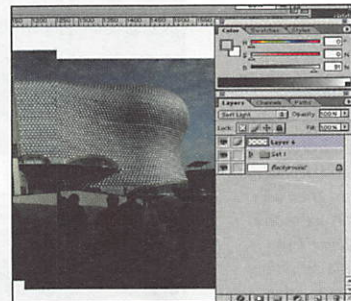
The joy of sets

Grouping our photos like this has been quite convenient. However, it does have its limits. If we wanted to apply a tool directly to the set as a whole, such as Dodging and Burning, Photoshop doesn't allow us to. Instead, you have to select each photo and work on them separately, or merge all the photo layers down to one. However, you could create a painted Dodge Blending Mode layer above the set and a Burn layer above that.

SOFT LIGHT LAYER

Balance out uneven lighting using this subtle blending mode

First hit the arrow by the photojoiner set in the Layers palette. This will fold up the folder so it takes up less room. Create a new layer called 'softlight' above the set and change the Blending mode to Soft Light. Select a large, soft brush and in the Color palette, set the ramp to Grayscale Ramp using the menu. Then use grays darker than 50% to slightly darken the set and grays lighter than 50% to lighten it. Try to match large areas like the sky or brickwork from one photo to the next. As the tool is so subtle in its effect you'll probably find that it's quite easy to maintain exposure and colour balance across the whole image.



The Soft Light Blending Mode is one you will come to time and time again for subtle alterations to exposure.

Tracing from the panorama

We can trace elements from our panoramic photograph to work within the montage



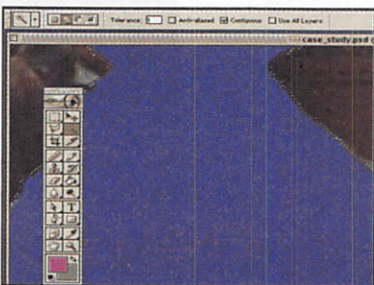
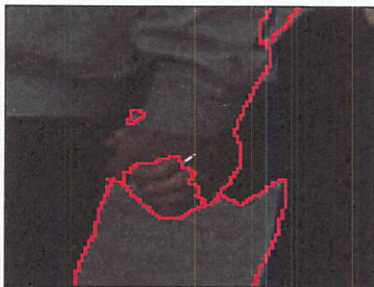
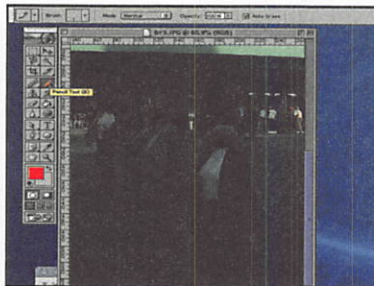
Flat colour

The traced element shown in this tutorial adds two areas of strong, flat colour which work well in an image that's otherwise very detailed and multi-dimensional. We have drawn attention to these figures themselves, whilst also erasing all their detail. To show some of their original detail from below, try reducing the layer's opacity or setting different blending modes.



Expanding selections

If you look at my 'filling' in the image, you'll see that some parts of the couple are poking through from behind, such as the corner of the woman's bag. To ensure that you cover the entire object, either zoom in and add pixels by hand or make the Magic Wand selection as shown in step 4, then do **Select > Modify > Expand** and try 1 or 2 pixels. You may lose a little definition around corners, but this should be pretty minimal.



1 Create a layer above the softlight layer called 'tracing'. We've already looked at how storyboard artists present ideas in a time-based way and this is also true of this panorama. Notice the people in the central part and where they can be seen walking from the right (before) to the left (after). I see the centre as the 'present', so this is what I'd like to concentrate on. Zoom in and select the Pencil.

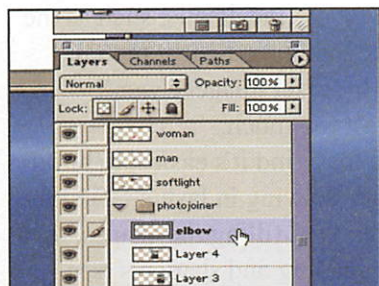
2 Set the Pencil to Normal mode, 1 pixel wide. If needs be, zoom right in around the couple in the centre and trace round the edge. Use the Eraser in Block mode to fix any mistakes. Don't worry about inner details, just trace the outline, making sure you leave no gaps, as we'll be filling this in a moment. Make a distinction between the woman's shape and the man's, so you have two separate shapes.

3 Turn off the softlight, photojoiner and sketch layers, then create a new layer at the top called 'man'. Pick a rich, blue to fill him in with and select the Paint Bucket. Make sure Anti-aliased is off and Contiguous and All Layers are on, then click inside the man shape to fill it. Notice how the selection is made from the lower layer but painted into 'man'. Create another layer called 'woman' and paint her in.

4 If you turn off the tracing layer you'll see the edge of the painted area isn't entirely 'clean', with stray pixels appearing. In the man layer, select the Magic Wand and set Tolerance to 1, also un-ticking Anti-aliased. Click on the fill – it should select a smoother outline. Select the right foreground colour and do **Edit > Fill > Foreground Color**. Repeat for the woman layer.

Painting in missing parts

We can use the Brush tool to fill in gaps and to paint new elements into the image



1 On the last page we mentioned the idea of the centre of the image representing the present, with time stretched around either side. The man in the extreme foreground is seen blowing his nose in the two sections to the right but his elbow has become cropped off, so let's paint it in. Create a new layer called 'elbow', expand the photojoiner set and place the elbow layer at the top of the group stack.

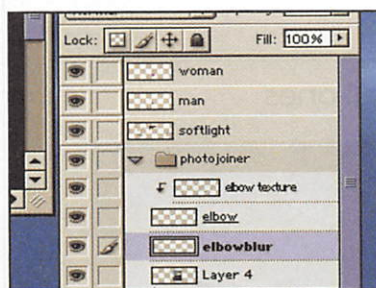


Clipping groups

These are new to us, so take the time to understand how they work. We group them together by selecting the Move tool, then [Alt/Option]-clicking between layers, and this is also how we ungroup them. You can also group together several layers at a time. Remember that the bottom layer only controls the blending mode, opacity and pixels shown above – the actual content is found in the group's layers.



2 Pick the Brush and open the Brushes palette from the Palette Well. Select the Brush Tip Shape tab. Set Diameter to 20 pixels and Hardness to 95%. Now, making sure you have the elbow layer selected, [Alt]-click (PC) or [Option]-click (Mac) the jacket to set the brown as your foreground colour, then paint in the elbow. Duplicate the elbow layer and call the new one ElbowBlur.



3 Now we'll add jacket texture to the new elbow. In the layer containing the jacket, use the Lasso tool to select an area of texture the size of the new elbow. Copy and paste to place this in a new layer (call it 'elbow texture'). Move this layer so it sits above the elbow layer and also covers the new elbow. With the Move tool selected, [Alt/Option]-click between 'elbow' and 'elbow texture' to create a 'clipping group'.



4 In a clipping group, the bottom layer limits the pixels shown and controls the blending mode and opacity of layers in the group. Select 'elbowblur' and apply a 3-pixel Filter > Blur > Gaussian Blur. Create a layer called 'blurcolour' and clipping group the two together. In 'blurcolour', paint yellow around the elbow's bottom edge and white at the top, then change 'elbowblur' to a soft light layer.



Note the details

In this example, we noticed that the arm had a faint yellow and white halo around the existing arm so adding this helps to add a sense of realism and the idea that the painted elbow is part of the same object. Keep an eye out for these little details – in theory that yellow halo should never have appeared in the photo in the first place, but it's a photographic anomaly that makes the image more 'real' by its presence.

Adding pixel art

Adding some fine details can help draw the viewer's eye around the picture



Isometric rules

If you want to enlarge or reshape a box, remember you will have to do so according to the isometric 'rules' – two pixels along for each pixel down. You will not be able to use the Transform controls but you may be able to save time by using the Lasso tool (no Feather, Anti-aliased off) and then the Move tool to reshape the box.

As this is really meant to be a collage piece, let's stop messing around with the photo element – we can come back to it later if necessary. Adding some pixel art will take us into the realms of mixed media. However, it shouldn't be totally distanced from themes, imagery and ideas we've been working with – take a moment to refer back to your original notes. The hard edges of pixel artwork will sit well against the strength of the Bullring and its modern architecture. As parts of the panorama are already

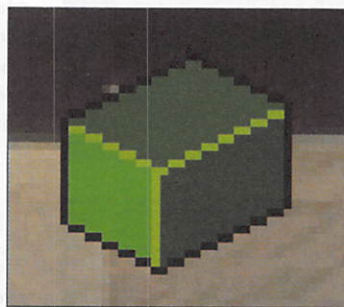
made up of fine details, such as the people lounging against the rail, pixel-by-pixel imagery won't contrast too much.

You may find it's easiest to build up your drawing in layers – first the outline, then filling the shapes, then some shading and shadows (see pages 65-67). Consider how much you want the pixel art to stand out – should you use a hard black outline? As long as you keep your layers separate whilst editing, you can simply use the Image > Adjustments list of controls to lighten it.

URBAN REGENERATION

Not enough buildings? Draw in some very small ones

We have plenty of influential shapes in the panorama – what on earth are those large, dark green cubes to the left? Well, let's zoom in and make some of our own. Add a new layer, 'pixel outline' at the top of the stack and draw an isometric cube. The photograph's light source is coming in from the left (see the shadows) so we'll colour it accordingly in another layer ('pixel fill') with shades of green. We can then merge the fill layer down to the outline so the 'block' is all in one layer. Then repeatedly duplicate the layer, reshape and reposition the boxes to create a mini-environment – a cube city. Place all related pixel art objects in one pixel set.



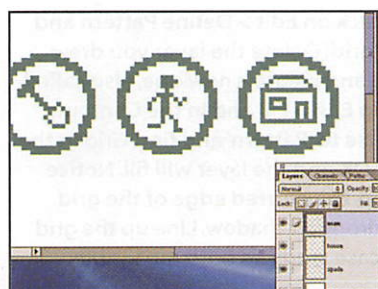
Remember the rule for isometric pixel art; two pixels along, one down – a nice contrast to the perspective of the photo

Creating larger pixel graphics

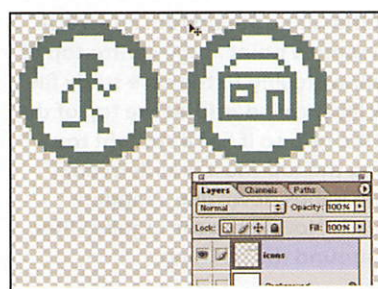
While we're working with pixels, let's create some larger, blocky graphics



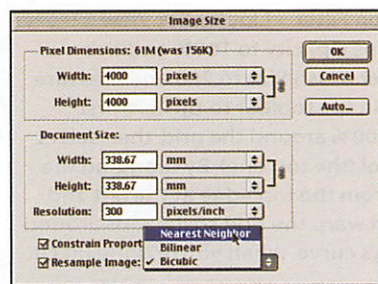
1 Rather than creating these graphics in the main file, start a new one and zoom right in to pixel-editing size. Select the elliptical marquee. With the 'Add to Selection' icon chosen and Anti-aliased un-ticked, draw a circle. Choose a colour and then in a new layer, do Edit > Fill > Foreground Color. Then do Select > Modify Contract and set to 2 pixels. Hit Delete and we've accurately drawn a ring.



2 Duplicate the layer two or three times, then line up the rings in a row. Now to fill them with symbols. Consider what is relevant to the piece and can also be rendered in so few pixels. Here, a spade depicts the building work that has been in progress, the man walking shows the progressive nature of the people who made it happen and the house represents the current regeneration.



3 Turn off the background layer so we can see the icons in isolation. I'm happy with the positioning in a row like that, so Layer > Merge Down the three icon layers into one. Also create a layer below the icons and fill the 'back' of each one with white – you can use the Pencil for this little job, then merge the icons down over the white fill too.



4 Click on Edit > Image Size. Make sure Constrain Proportions and Resample Image are both ticked, then multiply the Pixel Dimensions by an exact figure – in the case study, the Height is 200, so I changed it to 2000. Before hitting OK, it's very important you change Resample Image to Nearest Neighbour – this keeps the edges aliased. Then hit OK and drag the Icons layer into your case study file.



Re-sizing again

Once the icons graphic has been added to the main picture, I decide I want to use it again, but even larger. So, I Duplicate the icons layer and call the new one Icons2, then do Edit > Transform > Scale. Take care – if we just resize manually, there will be ugly Anti-aliasing. Instead, in the Options, multiply H (Height) and W (Width) by the same exact number, then hit Return. I change the Blending Mode and finally re-position it.



What effect?

So, we have added some very blocky, pixelated graphics but how does this affect the reading of the image? The large, flat blocks of colour contrast with the fine detail of the photo, similar to the central couple. The icons also add a certain 'old-skool' technological style – they are obviously computer graphics but look as if they have been lifted straight from an eighties Atari game! In many ways this could also describe Birmingham – forging onwards but also subject to its past reputation.

Adding a grid

First we'll create a grid shape, then we'll paint it on to the building in our main image



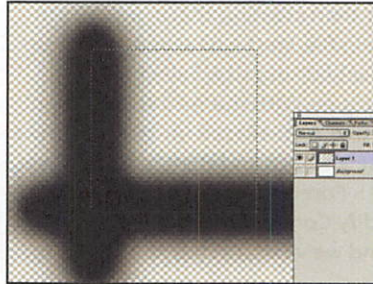
Useful grids

You can use grids in other ways too. Try creating a grid, then changing the perspective in the Transform controls (Edit > Transform > Perspective). If you make it smaller at one end and tilted, it creates a real sense of space. You can come up with some very futuristic compositions like this – anyone remember Tron? www.tron-movie.com.

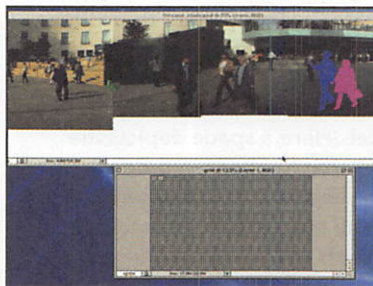


Unplanned move

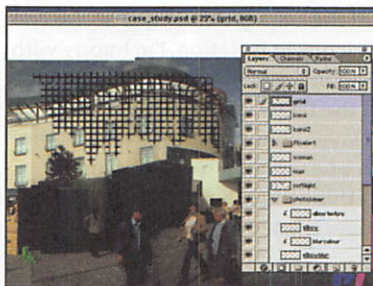
The idea to wrap the grid around the building was nowhere in my plans and only came about as I was applying it. I was naturally drawn to the smooth, rolling shape of the front of the building so it seemed logical to work something into this. Ideas will come to you like this – let them. As long as each new addition or change is kept in a new layer, you can always change your mind later.



1 Start a new file called Grid, 3000 by 2000 pixels. Create a new layer to design our grid in and zoom right in to pixel level. Turn off the Background layer or white will be included when we define the pattern. Pick a soft-edged, 20 pixel Brush and whilst holding [Shift] draw two crossing, straight lines. Then use the Rectangular Marquee to select a basis for the grid as shown.



2 Now click on Edit > Define Pattern and call it 'grid'. Delete the layer you drew the grid into and create a new one, also called 'grid'. Then do Edit > Fill and in the Contents section set Use to 'Pattern' and find Grid in the list. Then hit OK and the layer will fill. Notice how, close-up, the blurred edge of the grid looks like a dropped shadow. Line up the grid file and the case study so both are visible.



3 Select the Clone Stamp tool and [Alt]-click a sample point at the centre-top of the grid. Then, switching to the case study file, create a new layer called 'grid' at the top of the stack. Clone the grid so it has a straight top edge touching the top-most wooden roof strut and then hangs down like a ragged curtain beneath. Now, using the Liquify Filter, we'll warp it around the building.



4 Click on Filter > Liquify. Set View Options Opacity to 100% and tick Backdrop. Set Brush Size to 280 and Pressure to 20. Then, in the toolbar to the left, first zoom into 100% around the grid, then select the Warp tool (the top one). By dragging the tool down from the top edge at the left and right, we can warp the grid so it wraps around the building's curve. When you're done hit OK.

Adding patterns

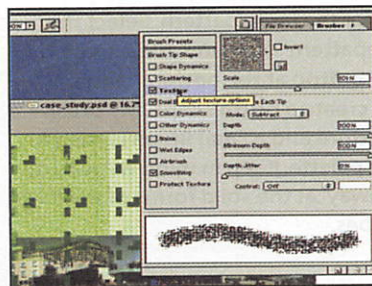
Let's take the case study to a new level with some wide-scale patterning



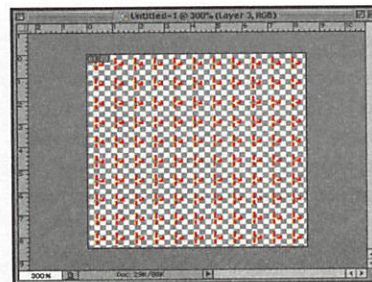
1 If we want to add some large-scale patterns, let's give ourselves more room to work with. Do Image > Canvas Size and increase the dimensions so that when you hit OK it adds space round the edges. Then start a new file roughly the same size as the case study's canvas. Zoom in to pixel-level, create a new layer and, using the Pencil in a bright colour, draw some random squiggles and dots.



2 Using the Rectangular Marquee, make a selection covering most of your squiggles. Then do Filter > Pattern Maker. This is almost as much fun as Liquify – if you hit Generate the filter randomly creates a pattern based on your selection. Hit it again and it creates a new one. Try changing width and height – this alters the dimensions of the tile used to create the pattern.



3 Once you've finished experimenting, hit OK and the pattern will cover the canvas. Using the Move tool, drag the layer straight off this canvas and on to the case study where it will automatically paste into a new layer – call it 'pattern1'. Position it so it covers the whole canvas. Then go back to your pattern-making file and take a few steps back in the History palette, to just before you made the pattern.



4 Create another pattern in the same way and based on the same selection but multiply the tile dimensions by around 7. Hit OK and drag this pattern into the case study. Finally, in a smaller file (100 by 100 pixels), create a more regular, grid-type pattern by clicking Edit > Define Pattern, then Edit > Fill > Pattern. Increase the file size, resampling pixels as Nearest Neighbour (step 4, page 109). Drag this blockier pattern into the case study.



Why seven?

In creating the second pattern, why did we multiply the tile dimensions by seven? Well, if you use one pattern on its own, you can clearly see where the tiles occur as the pattern repeats.

However, if we overlay another pattern where the joins between tiles occur in different places, it's harder to make out what's going on and, as seven is a prime number, the joins will hopefully never line up.



Reducing file size

By this stage we're dealing with a lot of layers and the canvas has been made very large, so the file size shoots up. This will probably make opening, editing and saving your file a pretty slow task. It might be time to accept we can't create this at the high resolution we'd originally wanted to – if this is so click on Image > Image Size and reduce the Width and Height dimensions. Try halving them to start with and see what difference that makes.

Using the patterns

So we've covered the canvas in squiggly patterns – what shall we do with them?



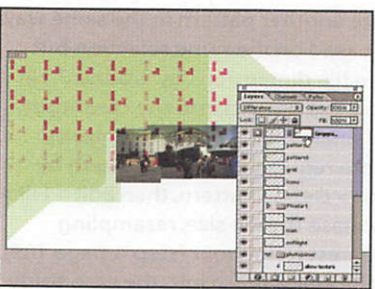
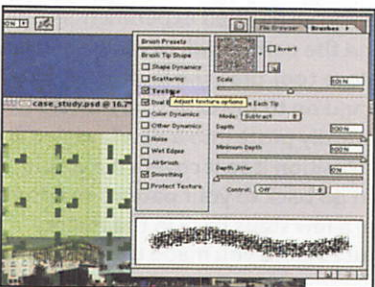
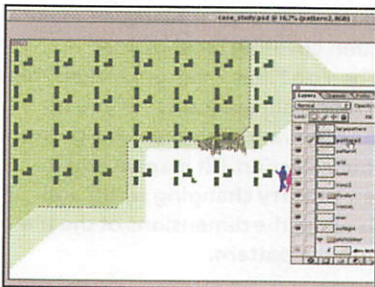
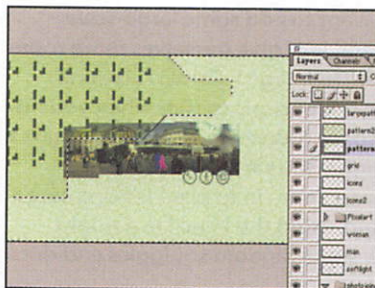
Straight or curved?

If you're put off by the regimented, clinical straight lines that the Polygon Lasso draws, try the Lasso tool instead. With this you can create freeform shapes – it might take a few goes to draw truly smooth curves but once you're there it will lend a more organic, fluid feeling to the piece.



45 degrees

As we head into a feel that is slightly more 'designy' than arty, let's take a look at some of the artwork that inspired me into making this subconscious move. www.weworkforthem.com, is a respected design agency with a lot of print work under its belt and if you look at the 'Print' section of their portfolio, you'll see that 45 degree angle cropping up occasionally too – it's a favourite of many designers worldwide.



1 Make a selection using the Polygon Lasso tool (no Feather). Select a shape that you would like to remove from your first pattern layer – hold down [Shift] whilst doing so to create visually pleasing vertical, horizontal and 45-degree edges. Then having made a shape, make sure you're in the pattern1 layer and hit [Delete].

2 After hitting Delete, don't undo the de-selection – click on Select > Save Selection and give this selection a name. Now create another selection (and also save it) and delete most of your second pattern as shown here – this creates a kind of stepping effect down to the photo section. You might also like to change the blending modes of both these layers – you'll get some interesting results.

3 Now for the large pattern. Select the 'largepattern' layer and add a mask by clicking the button at the bottom of the layers. Now create a brush shape. My brush included Texture and a Dual Brush setting in the Brushes palette. Keep in mind we will use this to 'eat away' at the solid forms of the large pattern shapes.

4 Then with the Vector Mask thumbnail selected in the 'largepattern' layer, scrawl some quick strokes into the pattern – the idea is to just slightly disrupt the perfect repetition there. Once again, play around with the blending modes – the Difference Mode on my green pattern turns it a satisfying, rich red.

Scattered imagery

Using a custom-drawn brush head we can create splattered imagery effects

Amongst other themes I wanted to address in the creation of this artwork was the idea of repetition as typically seen in the Bullring architecture – rows of wooden struts along the rooftop, brickwork and paving. However, repetition can also be identified where it takes on a more random behaviour. Consider the walkway area in front of the shops – we can guess that hundreds of people walk from one side to the other every day but the exact route will of course vary, as will their stride pattern and

speed. As many of the graphics in the image so far have followed a kind of pattern or regularity it would redress the balance a little to create a brush that by its nature paints randomly. If you're well acquainted with the Brushes palette (and by now you should be) then you'll know that means fiddling with some of the Jitter controls. Try to decide which elements or behaviours should be constrained and which can be let loose to randomly act of their own accord – you'll see what I came up with in the box below.



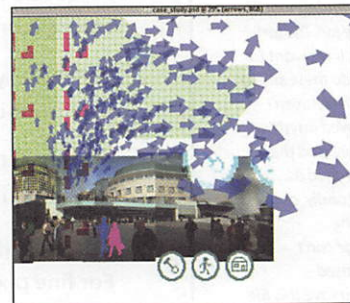
Rotation

We could have used any brush head shape here, but the arrow and the fact that we could make it point in the direction of the flow best illustrated the idea of something flowing from the Bullring. Try a cross-shaped head with a random Angle Jitter set up in the Shape Dynamics or even something more specific like a footprint – in the case study that would suggest a 'trodden path'.

CASE STUDY: ARROWS

Here's a brush created with a very specific job in mind

You will find this brush on the CD – casestudy.abr. I started off by drawing an arrow on an empty layer using the Custom Shape tool. In Options, I set it to draw Fill Pixels and selected the arrow shape (I actually drew the shape facing the wrong way but later rectified this by changing the angle in the Brush Tip Shape tab of the Brushes palette). Then, in the Brushes palette, I created a few behaviours. I set the Shape Dynamics Size setting to Fade over 30 steps and Scatter also worked in a similar fashion. I set the Angle Jitter Control to Direction so all the arrows would face outwards. Then I drew various strokes leading to my central point.



The arrows flowing out here contrast and physically push against the green patterns and red blocks on the left

Reshaping the photograph

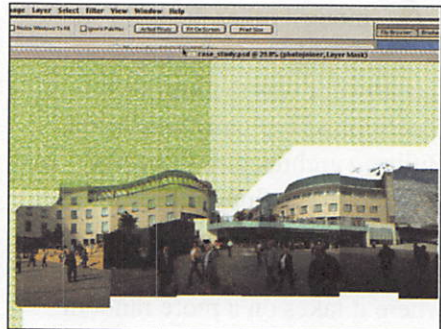
Let's take another look at our original panoramic photograph and make some changes



Check progress

The image is now made up of many layers – toggle each one on or off to see what they do/don't add to the image. This is the beauty of Photoshop – we can build up as much as we like, always knowing that no one element is unchangeable.

At this stage there are a couple of things I'd like to alter in the panoramic photograph that we started with. It now seems that the standard letterbox-shape conflicts with the free-flowing shapes, angles and patterns making up the rest of the image. The top and left edge at least could do with some changes, as they're most in contact with the pattern and arrows, so that's where the problem is most obvious. To start with, completely removing the sky will help open up the roofline and the idea of the arrows pouring out of



The central photomontage is now in need of reshaping to accommodate the newer graphic elements – the changes are shown here

a kind of organic shape. The left edge can be reshaped using the selections we saved in creating the patterns.



Why mask?

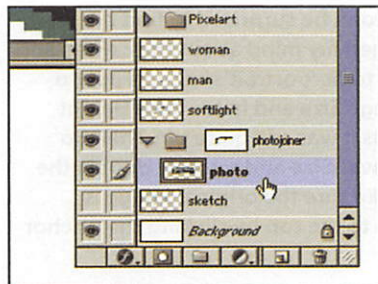
There are several reasons we choose to mask this layer when simply erasing would have done the job. To start with, it's safer. If we want to change or undo these shape changes later we haven't actually removed anything from the picture and the mask can be edited as necessary. Secondly, as a grouped set, the photomontage can't actually be erased – however, if you save this file with just one layer in a set and then re-open it, notice that the set folder is 'cleaned out', leaving just one layer.

RESHAPING THE PHOTOGRAPH

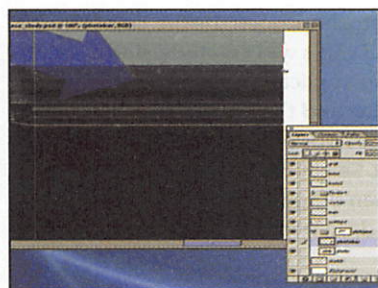
- ☐ **TURN OFF** all layers except the Photojoiner set. Then we can tick All Layers in the Paint Bucket options knowing it will only select from the relevant ones.
- ☐ **ADD** a Layer Mask to the Photojoiner set. Then select a 100% black foreground colour with which to mask out the sky.
- ☐ **PAINT BUCKET** over the sky with Tolerance set to 30 and all tick-boxes ticked. You will need to do several clicks.
- ☐ **CLEAN UP** areas you couldn't mask over using a normal round brush. For fine pixel work, use a black pencil.
- ☐ **SELECT** an area on the left using the Polygon Lasso, then Edit > Fill with black. This area should overlap the left edge so it masks in an edge shape, reflecting the green patterns.

Some painting with brushes

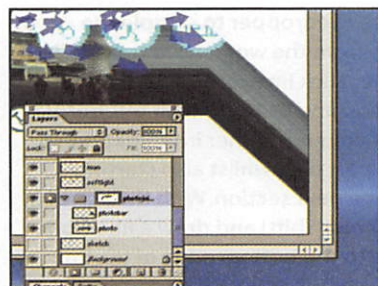
It might seem like a revolutionary move, but it's time for some plain old brushwork



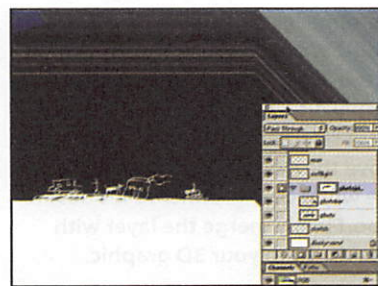
1 First I wanted to create an interesting area to paint on, not just the white canvas. This is based around the photo and as I'm now sure about the Photojoiner set, we can merge it. First Merge Elbow Texture down to Elbow ([Ctrl]+E (PC) or [Command]+E) (Mac), then Blurcolour down to Elbowblur. Select Elbow again and keep merging layers until all the photo elements are in one layer.



2 In the photo layer, choose Rectangular Marquee and set Style to Fixed Size and enter Width 1 pixel, Height 2500 pixels. Click on the right edge of the photo and a narrow selection marquee appears. Zoom in and position the marquee so it covers the edge column of pixels. Copy and paste so this column goes in a new layer. Edit > Transform > Scale and drag the column into a wider bar.



3 Now duplicate this new layer and Edit > Transform > Skew so it slopes down and off the canvas. Merge these two latest layers together. Having produced this very 'techno' artwork, I wanted to paint a dirty brush over it. In the Preset Manager or Brushes palette menu Load the Dry Media Brushes set. Select a thin but rough brush, I used Wax Pencil.



4 Then in the set's Layer Mask draw shades of grey (100% black masks most remember) over the bottom part of the bar where it's darkest. Draw anything you like – I went for quite childlike imagery to contrast with the sharpness of the bar. If you'd rather leave this bar shape 'clean' then fair enough, but in my image I felt it needed a more natural 'hand drawn' artwork element.



Dynamic graphics

The method used for making bars is basically a trick, but there's nothing wrong with that. We sample a realistic selection of colours from the photo and drag this out into something far more abstract. The result is impressive, fast and effective; more to the point, it's one of those images that you can only really create with a computer.



Don't mind the gaps

In lining up these bars, make sure there that they are flush up to each other and the straight photo edge. You'll find it easiest to zoom in, select the Move tool and then use the arrow keys to position them (hold [Shift] at the same time for bigger movements). However, on viewing the image at other zoom levels, it might look like there's a gap there – ignore this – it's just Photoshop doing it's best to 'redraw' what is there.

Importing external graphics

We can't do 3D modelling in Photoshop, but we can create images of 3D models



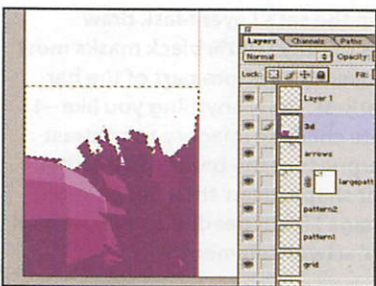
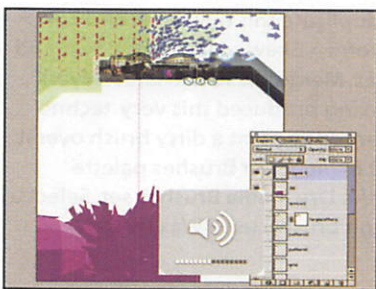
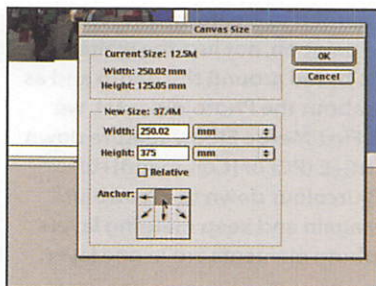
Creating 3D images

Making up abstract 3D images as shown here can be very easy. Even simple applications can be used to quickly draw an object like a cube or sphere, then pull the points around to remodel and reshape it. It only starts to become hard work if you're trying to create something that resembles an everyday object, such as a car or house.



Using selections inventively

Here we show a simple way of using a selection from one layer to affect the content of another. This can produce some quick, interesting results. Try layering two different photos, making a Magic Wand selection from one and then deleting this from the other.



1 You won't be surprised to find I've changed my mind about the canvas and now want it to be 'portrait' shaped. First do Image > Image Size and halve both Height and Width, as it was still quite big. Then do Image > Canvas Size and roughly double the height – make sure the original image is placed flush to the top by clicking the Anchor button.

2 In Photoshop, open the file 3d.pct from your CD. This was created using a simple 3D modelling application called Strata StudioPro Blitz and then saved as a PICT file – notice that this doesn't bother Photoshop in the slightest. Select the top layer of the case study file, then drag the 3D image from 3d.pctc and drop it into the case study.

3 Use the Eyedropper to sample the purple from the woman we traced. Then in the 3D layer click Image > Adjustments > Hue/Saturation and Colorise with this purple. This block of colour is rather intimidating, so let's remove part of it, whilst also starting a graphic for the next section. With the Pencil in a new layer, hold [Shift] and draw a line from the top edge to the bottom edge of the image.

4 On the same layer you drew the line, use the Magic Wand to select the unwanted right side of the image. Then select the 3D layer and simply hit [Delete] to erase it. Whilst in this layer, try selecting the seemingly empty area just above the graphic – the 3D file also imported the white background, so it's best to delete this too. Finally merge the layer with the single line down to your 3D graphic.

Linking graphic elements

In the last page we drew a single line; now let's use it and others to link elements

Our image is now made up of several different graphical elements, so using a few well-placed lines will help to pull all of these together. We already have the vertical line drawn in from the last page, so that's a start. But what can a single line really do on its own? Well even at this stage it's doing something – if we look at the image we can see that this line naturally draws the eye down to the 3D element: it is a physical connection. Also, because the line is very narrow, despite this connection,

it's represented as being very fragile.

On the next page we will add a dropped shadow under the 3D layer and a gradient radiating from the bottom half of the image. This will give the impression that this isn't just a line, but an edge where the 3D section is contained in some kind of well, box or precipice. Other lines will be used to reinforce the existence and importance of objects such as the icons and photo itself. This is just one way that you can bring elements together, giving a feeling of unity to the image.



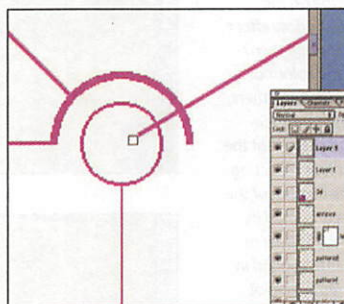
Take a line for a walk

Don't feel you need to follow any sorts of rules when adding these kinds of linking graphics. In fact, if you don't use them at all, you might simply enjoy the space left. Large areas of flat colour are typically used by artists and designers to contrast other fine details, patterns and the like in a piece of artwork.

MORE LINES

See how I added more linking lines in the case study

Start off by using the eraser to simply rub away a top part of the line so it stretches about three-quarters of the way up the image. Then, at the top of the line and in a new layer, add a 2-pixel wide ring – in the same way that we made the circles for the icons before. Then, above this add a larger, more solid ring, but rub the top half away so it looks as though it 'docks' on the circle. Then from here, draw lines which branch off the ring – just draw a horizontal line then Edit > Transform > Rotate as necessary. Then, to line it up correctly, place one end at the centre of the inner circle, then erase up to the outer semi-ring.



All our lines emanate from a shape which suggests some kind of 'meeting' between the different graphics

Re-colouring the canvas

We've been staring at a white canvas for too long – let's change that right now



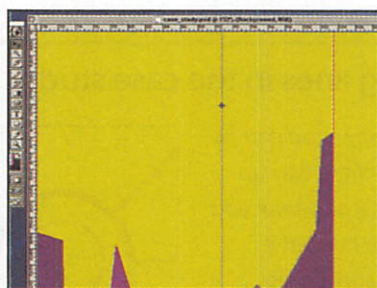
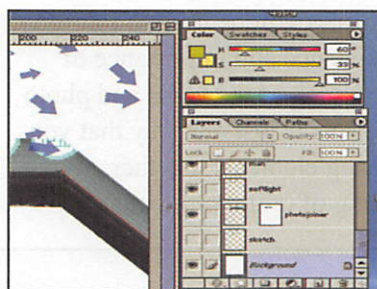
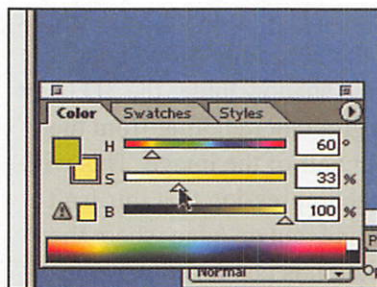
The final frontier

The idea of the exercise is to create a sense of space and depth. The first angled gradient adds an almost Escher-like 'impossible' spiral of lighting, as if the surface is a paper cone. It also suggests the emptiness of the direction the arrows are following. Then the second gradient drops us into a void, or at least a space that slopes away from the top of the image into this recess.



Light, shadows and colours

How did I decide on the colour for the shadow effect under the 3D image then? Well, I chose the colour of the rest of the 'surface' there, the yellow. Then the idea was to try and show that the purple object was reflecting light on to the bottom of the recess it was contained in. So, using the RGB Slider of the Color palette I added in a little more red and a lot more blue to create yellow with a hint of purple.



1 Select the Background layer right at the bottom of the stack. Choose a colour you think will balance well with everything else. It shouldn't be too saturated or it will clash and look garish. Now, rather than just fill the layer with this, I want to add a little depth using a Gradient. Choose another colour as your Background colour, one that is very similar to your Foreground.

2 The gradient we'll use is the Angle Gradient, the middle icon of the row found in the Options panel. If you've ever tried out this gradient, you'll know it creates a hard line but we can hide this under the photo. Click the start point where the 'bar' graphic starts, drag it down in the direction of the sloping bar and then release off the canvas (hold [Shift] for that 45 degree angle).

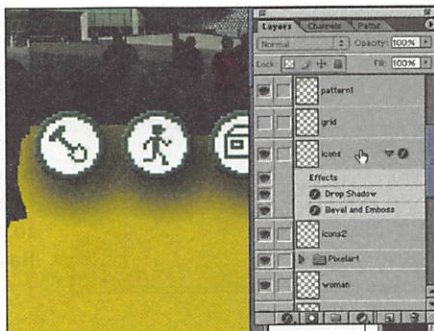
3 Now to add a gradient and create a 'box' illusion for the 3D section. Zoom right in to where we drew that first line coming from the 3D graphic. Click on View > Rulers and also make sure View > Snap To > Guides is ticked. Then click and drag a vertical ruler from the edge of the canvas where the numbers are – drop it so it lies just along the vertical drawn line. Now zoom out to see the image in full.

4 With the Rectangular Marquee tool select a box covering the 3D graphic – it will snap to the guide when you get near it. Create a new layer just above the Background layer and choose a colour. Select the Gradient tool and pick Foreground to Transparent in the Gradient Preset Picker. Select a Radial Gradient shape. Draw a gradient starting at the centre of the 3D image and ending two thirds up it.

Final changes

By now we've added everything we need to, but the image as a whole needs tweaking

At this stage we're treading thin ground – adding any more contrasting elements will overcrowd the image and generally, the balance that I'm looking for is there already. You might argue that the bottom-right quarter of the image looks a bit sparse, but I mentioned earlier that many people like to use flat, empty areas in their work and I happen to be one of them! Most of the adjustments I make now are to pull the photo back out of the business in the centre and also add a general sense of depth. When you get to this



Adding a final round of special effects to your layers can help create a much-needed sense of extra space and depth

stage in your own work, step away for maybe a day at a time so you can come back to it with a fresh outlook.



Yes, turn back

You don't have to be right all of the time, no one is. So if you added something at any stage of the process and want to be rid of it, that's fine. The grid that I added and warped round the building near the start is really bothering me – it doesn't seem to be doing anything good for the image, so I turn off its layer by clicking its 'eye' symbol. Ah, that's better!



Second opinions

Before your artwork goes out to the great art-loving masses, why not try showing it to a few close friends or family. Of course, their opinion will be biased and they might not want to hurt your feelings but you can probably get a few quick, honest thoughts. If you're concerned about a particular layer, save two jpegs, one with the layer on and one with it switched off so they can compare and choose their favourite.

CASE STUDY – TWEAKING

- ☐ **THE SMALL** icons don't stand out enough, so I select the Icons layer and then click the left 'f' button to add a layer effect – I pick Bevel and Emboss then, when the Layer Style window pops up, Dropped Shadow as well.
- ☐ **THE MAN** in the foreground has no legs and he looks like he could do with some. In the Photo layer I use the Magnetic Lasso to select around his legs, then copy, paste and resize them using Transform.
- ☐ **THE SECOND** 'icons' image is too jarring in the mix. I change the blending mode to Overlay and reduce the opacity slightly. It still screens the pixels underneath with a 'blasted' white and blue light effect, but it's not so harsh and distracting now.
- ☐ **THE PHOTO** layer is still a little dark in places. To fix this I duplicated the layer, changed the new layer to Screen, lowered the Opacity a little rubbed away parts I didn't think needed lightening.

Slicing and saving the image

Now let's put this thing to bed – not forgetting to save it for our web audience



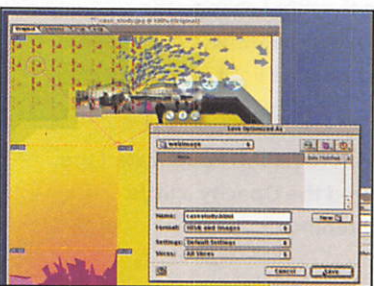
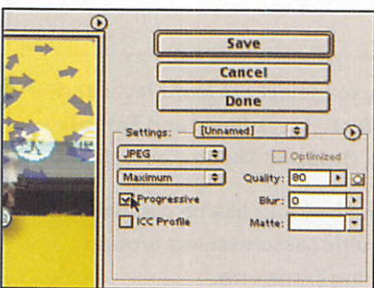
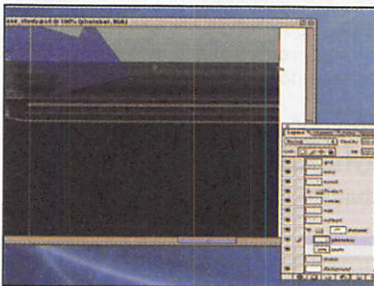
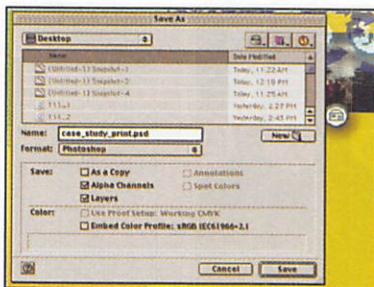
Screen resolution

In saving your file for the web, consider the screen resolution that will typically be used by your audience. It's no use making a file that's 3000 pixels wide if the viewer's browser is only 700 wide – they will have to scroll all over the place to see it. 800 by 600 pixels is most widely used, followed by 1024 by 768, 1280 by 1024, etc. Also remember this is the screen size – the browser size is even smaller.



Web links

On page 97 we discussed how Image Ready can turn slices into clickable 'button' that links to other web pages. Depending on how literal you want to make the interpretation of your image, you could even link each slice to a different web page. Or if you were concerned that your viewers wouldn't see the image in its full detailed glory, you could make a 'zoomed-in' web page for each slice, where just that slice appears much larger on the page.



1 With the case study file open, make sure you have the layers switched on that need to be. Click on Image > Image Size and you'll see the file is still huge. As I'm aiming to show off the image to a web audience, it will need reducing once again to fit in the average browser. However, it's a good idea at this stage to do File > Save As with a new name so you have a larger, printable version too.

2 After doing this, you will probably have to reopen your original case study file and then do Image > Image Size. First un-tick the Resample Image box and change 300dpi to 72. Tick Resample Image again and change the Pixel Dimensions > Height to 700. Hit OK. This should now fit in most browsers if we assume that the majority of surfers use a high-resolution screen.

3 Don't try zooming in now, it will depress you because the pixel art, carefully tweaked photo and other elements have been mashed up in the resizing. To make the file more web-friendly, do File > Save for Web, pick JPEG as the file type and set to Maximum. Also click Progressive, then hit OK. Then open the optimised JPEG and hit the Jump to Image Ready button at the bottom of the toolbar.

4 In Image Ready, click Slices > Promote to User Slice, then Slices > Divide Slice. In the pop-up, choose to divide horizontally into three slices and vertically into two slices. Select the Slice Tool and drag the slice dividers around so they lie along lines and sections of the image. Do File > Save Optimised As and check that Format reads HTML and Images. Give the HTML file a name and hit OK.

FTP and uploading

Finally, it's time to share your work by uploading it to the world wide web

There are two things you will need to do if you want to put your work on the web. First, you need web space. Many companies offer this free – the only problem is they may add banners to your site, which can be a little off-putting. If you pay for your web connection with someone like Freeserve or AOL you may already have free web space. If not, try www.sitebuilder.com, www.freeserve.com, www.yahoo.com, www.msn.com or search for 'free web space' on www.google.com. Whilst doing this, get hold of your

personal FTP settings for uploading files to the web. You will need the host address, your username and your password.

Now you need to download an FTP application such as Fetch, CuteFTP (PC) or Transmit (Mac) to transfer your files to the web. Search Google for "free FTP applications" or similar – I found www.fdepot.com/freeftp.asp, which gives a pretty comprehensive list. Some offer software on a free 30-day trial basis, but keep hunting for a permanent one if possible.



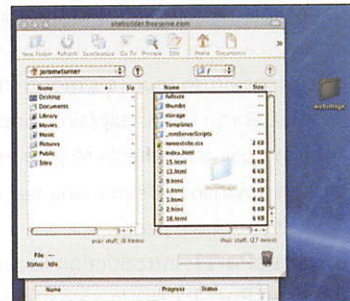
Finished piece!

Yes, you can see my completed image online! Go to <http://mysite.freeserve.com/jezturner/webimage/casestudy.html>. What do you think then? In fact if you really want to tell me, feel free – email me at info@jezturner.co.uk. You can see other examples of my illustration work at <http://mysite.freeserve.com/jezturner/about.html> – naturally, many of them use the methods we've seen throughout this issue.

PUTTING FILES ONLINE

Stick it online, sit back and wait for the praise

Connect to the internet and open your FTP application. Enter your FTP details from the web space provider then connect. Your web space is organised like any other desktop folder, probably starting with a 'pub/' folder. Put your HTML file and folder containing the slices into another folder. Then drag this into the FTP upload window or browse to select it. This will upload the entire contents. Then open your web browser and type in the web address of your web space, followed by your folder name and the HTML page name. For example, <http://www.freewebspace.jezturner.co.uk/webimage/casestudy.html>.



Transmit is easy to use and free to people running Mac OS X – you can find it at www.apple.com/osx

www.apple.com/osx

On your CD-ROM

Here's how to get the most from the disc that accompanies your Focus Guide

Featured resources...

- ☐ **More than 1000 custom brushes, patterns, shapes and borders**
- ☐ **Video training tutorials**
- ☐ **Huge library of more than 100 stock images**

To access the resources and files on this disc, including the huge collection of custom brushes, first insert the disc into your drive. Whether you're using a Windows PC or a Mac, the disc will work equally well. If the disc interface doesn't run automatically, look at the opposite page to find out how to start your installation manually.

Before you go on

The first item that should appear on your screen is the disclaimer window; here you'll need to click

on 'I Accept'. Please remember that this disc has been scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before use. We also recommend that you have an up-to-date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please consult your network administrator

VIDEO TRAINING TUTORIALS

The use of brushes explained by Photoshop guru George Cairns

To complement the printed tutorials in this issue, we've also included a range of video tutorials on the disc to help you master the Brush tool. This month our regular Photoshop expert George Cairns explains various techniques for applying painterly effects to your images. The tutorials are broken down into three manageable chunks, so you can work at your own pace:

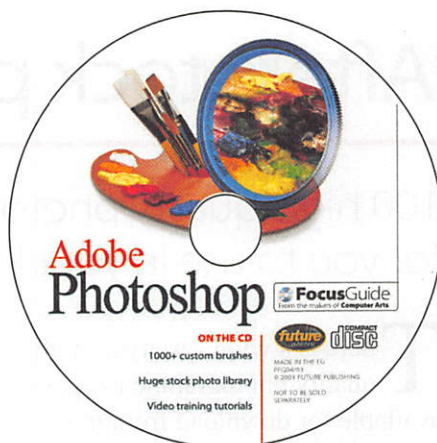
BrushesPart1: Introduction to brushes.

BrushesPart2: Creating a pattern from a brush/creating custom brush shapes.

BrushesPart3: Creating an 'painted' image using brushes.



Photoshop expert George Cairns takes you through artistic brush techniques in our superb video tutorials



The disc accompanying this Focus Guide contains more than 1000 custom brushes, 100 stock images and much, much more

before attempting to install any software on a networked PC.

Installation

Once inside you'll find yourself on our introduction screen, with a range of options along the top. Click on the relevant link in the menu bar to access the file or program that you require. To install the brushes, patterns and custom shapes simply drag the .ABR, .PAT or .CSH files to the relevant preset folder within your Photoshop installation (see page 38 for details on installing brushes).

If you have a query about your disc's interface or content, email our support team (support@futurenet.co.uk) for help. If you want to talk to a member of the team, call 01225 822743. Please note that we can only provide basic advice on using the interface and installing the software. We cannot give in-depth help on specific applications, or on your particular hardware or operating system.



Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGi.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up.
Mac users: Double-click the disc icon, then double-click PFGiClassic or PFGiOSX, depending on which OS you're using.

BRUSHES, SHAPES AND PATTERNS TOOLKIT

A huge resource of custom tools for Photoshop users

A grand total of 1121 brushes, 203 patterns, 24 shapes and 20 borders, supplied by the following:

- Cybia** A varied resource of all things Photoshop, Cybia has supplied 600 Photoshop brushes, broken down into four collections. www.cybia.co.uk
- Sage** Sage has supplied 304 brushes split into 10 collections, plus a bundle of 20 borders. Check out the website for more. www.photoshop.brushes.btinternet.co.uk/
- OgeeFire** 170 patterns plus 67 brushes have been supplied by this useful resource-filled site. Find much more online. www.ogeeffire.com
- miss m.** miss m. has supplied 150 brushes split into 12 collections from the huge variety that can be found on the website. www.rebel-heart.net/brushes/
- WebMachine** This useful site has supplied 33 patterns in four collections, plus 24 custom shapes. Find great tutorials and much more on the web. www.thewebmachine.com

Image*After stock photographs

100 high-quality photographic images
for you to use in your Photoshop projects



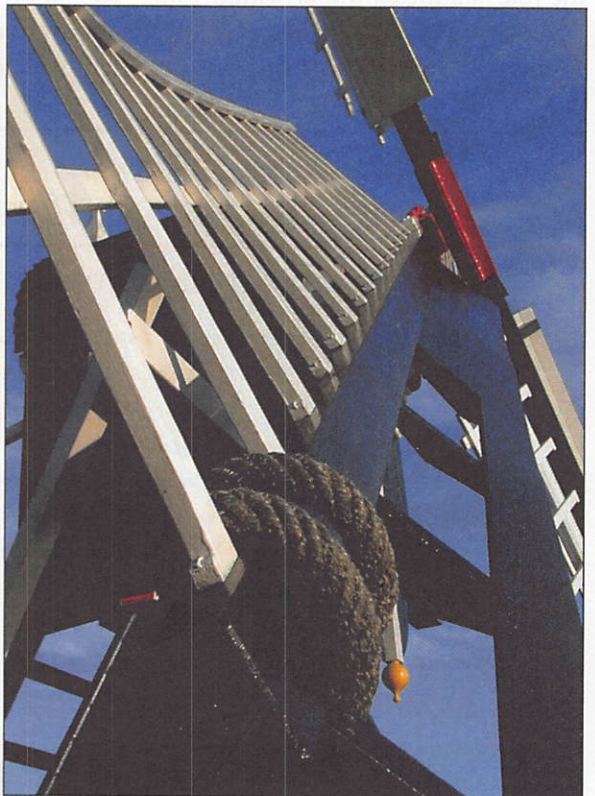
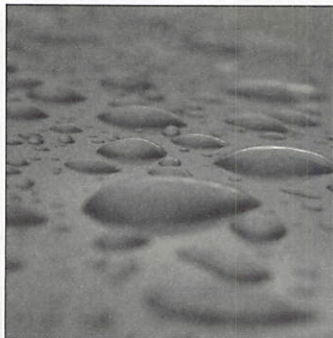
Online options

A great many images are available online at the Image*After website. Point your browser at www.imageafter.com for more examples.

There is a wide variety of high-quality photographic images available for download from the Image*After website, and we've included a hefty sample on this month's disc. They might not be quite as good as images from a premium-cost photo library, but we reckon you'll find these photos really useful for your including in your own Photoshop creations.



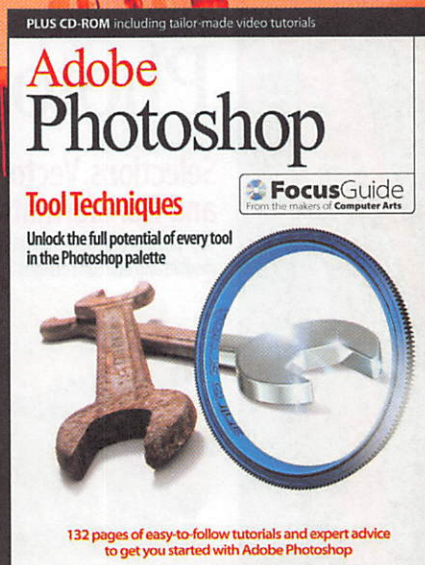
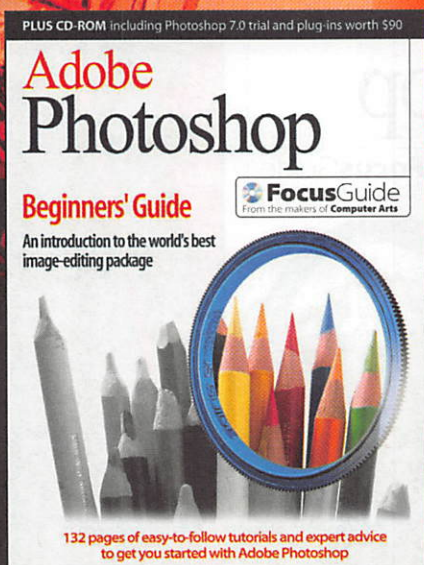
These are just some of the great images on this month's disc. Enjoy them as they are, or use them as components in your own Photoshop creation



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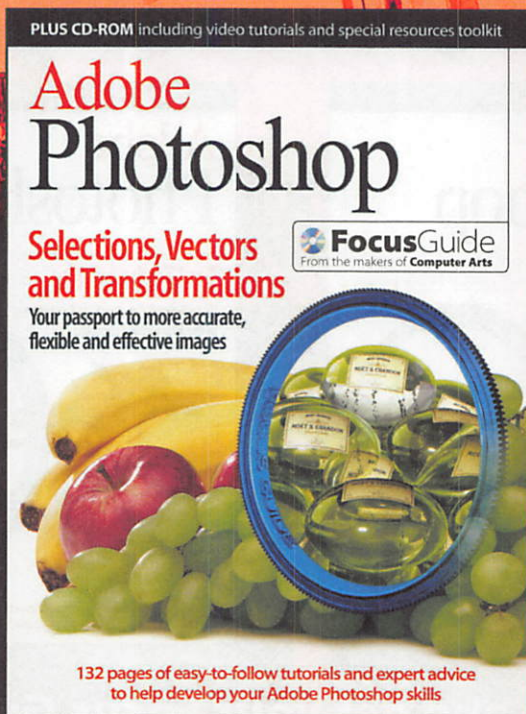
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Next month

Selections, Vectors and Transformations



- ☐ Create and alter pixel-perfect selections
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- ☐ Discover the potential of paths and shape layers
- ☐ Distort and reshape images using Transform

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All contents subject to change



ISSUE 5 ON SALE 18 DECEMBER

Glossary

Finding the lingo a puzzle? Here's your handy guide to essential terms found in this Focus Guide

Alpha channel

Alpha channels are stored alongside colour channels within Photoshop files but do not affect the final image printout. Instead, they store information that is helpful to you, such as saved Masks.

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Brush

Brushes enable you to paint on Photoshop images with colour, other bits of images and pre-defined patterns. They mimic real brushes in that you can alter the size, hardness and texture in order to achieve the effects you want.

Colour channel

There are three colour channels in all colour images: red, green and blue. Each one contains information specific to that colour. Photoshop enables you to alter each channel independently, making it possible to reduce grainy blue skies without affecting the rest of an image, for example.

Feathering

Softening the edges of pixels in a selection, so that they will blend smoothly when moved elsewhere. Photoshop does this by only partially selecting some of the pixels around the edge of the selection.

Filter

One of Photoshop's preset tools that applies an effect to an image (or a selection within

the image). Examples include sharpening, blurring, creative and artistic filters. You'll find a complete list by clicking in the Filter menu at the top of the Photoshop window.

Font

A commonly used term used to describe the typeface you are using. For instance, Times New Roman (this text) is a font where all the letters look fairly formal. In Helvetica, however, all the letters are far simpler looking.

GIF (or .gif)

A type of image file format best suited for producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Almost all digital camera files, for instance, will be in colour. But you can turn them into black and white with many fine gradations of grey, from within Photoshop by turning them into greyscale images.

Image size

This refers to the physical size of an image. For instance, a photograph you are working on may be 20x15cm. This matters most when you come to printing out the image.

JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file sizes and good quality photo reproduction. It is commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layer

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, in the same way that a blurry piece of glass placed over a photograph does not actually affect the photograph – in both cases, it is the appearance that is changed, leaving the original untouched.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Navigator

In Photoshop's default screen layout, the Navigator is positioned in the top-right corner and gives you access to the whole image, even if you are currently zoomed in to a specific part. The red box within the Navigator image denotes the area that is currently on screen; you can move around your image by clicking and dragging the red box around the Navigator image.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images.

Selection

Any part of an image which you select with Photoshop's tools, shown by a marquee around it. You can then work on certain parts of an image, or remove them without affecting the rest.

Slices

These are special kinds of selections for web page design. An image can be split into segments or slices, and Photoshop creates an HTML file, plus separate image files, for each slice. The web browser then reassembles the slices in their original position to give the appearance of a single image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find them in folders of images and in Photoshop's File Browser. Because they're smaller than a full size image you can browse through them more quickly, which makes finding the file you're after far easier.

Pixel

An abbreviation for 'picture element', it is essentially a tiny dot of colour on screen. Most images are made of up millions of pixels, which combine to make an image look seamless. Zoom in very close on an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you have made to remain editable when you next open it.

Tool Options bar

When a tool is selected, the corresponding Tool Options bar automatically appears at the top of the Photoshop window, giving you access to various options, including such things as Brush Sizes and Feathering.

Photoshop, Flash, Dreamweaver, Illustrator, FreeHand, Cinema 4D, After Effects

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